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ABSTRACT

Reported was a project which revised the staffing pattern at a school for trainable mentally retarded (TMR) students in an attempt to increase the program's cost effectiveness and to maintain the quality of classroom instruction while utilizing personnel without special training in the majority of classroom assignments. Examined were the project's management and performance objectives: providing one master teacher to work with each group of three classroom interns; organizing an instructional day for nine classes containing 10 EMR students each; arranging a lunch period in which eating skills and nutritional knowledge could be taught, establishing orientation, preservice and inservice training programs for staff members; rating the progress of experimental and control groups of TMR students for psycholinguistic abilities, social maturity, and vocabulary; administering a parent questionnaire; and computing per pupil costs for instructional personnel in both control and experimental staffs. The project was evaluated in detail for each of the stated management and performance objectives. Presented were curriculum guides developed as part of the instructional program in the areas of arithmetic, pupil arrival time, arts and crafts, communication skills, home arts, and physical education. (GW)

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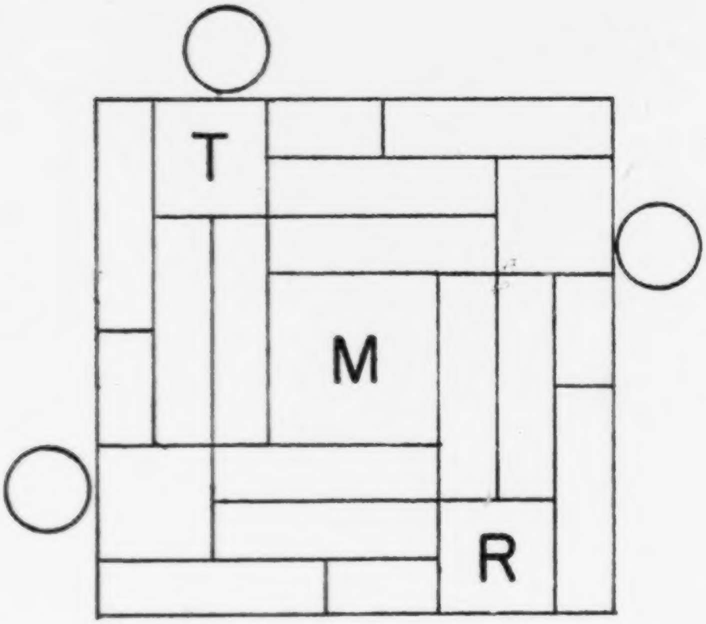

TRAINABLE
Mentally Retarded
STAFF
Deployment Project

EC 050 273E

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TRAINABLE MENTALLY RETARDED

STAFF DEPLOYMENT PROJECT

by

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TABLE OF CONTENTS

Chapter		Page
1	Trainable Mentally Retarded Staff Deployment Project--Demographic Statistics	1
2	Trainable Mentally Retarded Staff Deployment Project--Generalized Research Design	10
3	Implementation and Operation of the Trainable Mentally Retarded Project	30
4	Evaluation of the Trainable Mentally Retarded Project	51
5	Evaluation, Conclusions and Recommendations Regarding the Trainable Mentally Retarded Project	122

APPENDICES

Appendix		Page
A	Teacher's Guide for Arithmetic Trainable Program	A-1
B	Teacher's Guide for Pupil Arrival Time Trainable Program	B-1
C	Teacher's Guide for Arts and Crafts Trainable Program	C-1
D	Teacher's Guide for Communication Skills Trainable Program	D-1
E	Teacher's Guide for Home Arts Trainable Program	E-1
F	Teacher's Guide for Physical Education Trainable Program	F-1
G	Table G1 - List of Variables with Their Identification Numbers	G-1
	Table G2 - Pre-test Data on ITPLa for Trainable Mentally Retarded Staff Deployment Project School #307	G-3

APPENDICES (continued)

Appendix		Page
G (cont.)	Table G3 - Post-test Data on ITPLA for Trainable Mentally Retarded Staff Deployment Project School #307	G-4
	Table G4 - Data on Peabody Picture Vocabulary Test for Trainable Mentally Retarded Staff Deployment Project School #307	G-5
	Table G5 - Data on Kappitz Human Figure Drawing Test for Trainable Mentally Retarded Staff Deployment Project School #307	G-6
	Table G6 - Pre-test Data on ITPLA for Trainable Mentally Retarded Staff Deployment Project School #308	G-7
	Table G7 - Post-test Data on ITPLA for Trainable Mentally Retarded Staff Deployment Project School #308	G-8
	Table G8 - Data on Peabody Picture Vocabulary Test for Trainable Mentally Retarded Staff Deployment Project School #308	G-9
	Table G9 - Data on Kappitz Human Figure Drawing Test for Trainable Mentally Retarded Staff Deployment Project School #308	G-10
	Table G10 - Statistical Matrix Showing Variables Correlated, Means, Standard Deviations, Number of Cases, and Zero-Order Correlation Coefficients, School #307 Trainable Mentally Retarded Staff Deployment Project	G-11
	Table G11 - Statistical Matrix Showing Variables Correlated, Means, Standard Deviations, Number of Cases, and Zero-Order Correlation Coefficients, School #308 Trainable Mentally Retarded Staff Deployment Project	G-14

APPENDICES (continued)

Appendix		Page
G (cont.)	Table G12 - Statistical Matrix Showing Variables Correlated, Means, Standard Deviations, Number of Cases, and Zero-Order Correlation Coefficients for Net Gains, School #307 Trainable Mentally Retarded Staff Deployment Project	G-17
	Table G13 - Statistical Matrix Showing Variables Correlated, Means, Standard Deviations, Number of Cases, and Zero-Order Correlation Coefficients for Net Gains, School #308 Trainable Mentally Retarded Staff Deployment Project	G-18

CHAPTER 1

TRAINABLE MENTALLY RETARDED STAFF DEPLOYMENT PROJECT--DEMOGRAPHIC STATISTICS

During 1964, the Baltimore City Public Schools was invited to apply to the United States Commissioner of Education for funds under the provisions of Title VI-A, Elementary and Secondary Education Act, of Public Law 88-164, for a research project involving staffing for trainable mentally retarded children. One purpose of this legislation, Title VI-A of the Elementary and Secondary Education Act was "to foster the development or demonstration of innovative educational practices over a three year period." At the end of this period, if the practices were proved to be truly innovative, the hope was that the local school district would continue to support the project through local funding. Thus, Title VI-A was designed "to stimulate local school districts to seek creative solutions to their educational problems." It was also intended "to support vitally needed supplementary educational services and to encourage innovative and exemplary applications of new educational knowledge." Under this legislation projects could be developed which: (1) tried to develop a creative solution to a vexing educational problem; (2) attempted to demonstrate an exemplary program which might be applicable for widespread diffusion to other educational school districts; and (3) sought to adapt an exemplary program to local requirements and organize its adaptation into the on-going educational program. For these reasons Title VI-A of the Elementary and Secondary Education Act was known by the acronym PACE, which translated into Project to Advance Creativity in Education.

Although the "Reorganization of Staffing Patterns for Classes of Trainable Mentally Retarded Children" was first submitted for funding on December 10, 1964, the project was not actually funded until the FY 1968-69. Despite the fact that Federal funds were not forthcoming until February 1, 1969, the Project was initiated in August of 1968.

The Trainable Mentally Retarded Staff Deployment Project was not primarily instituted as a research proposal but as an effort to develop a creative solution to the staffing problems of trainable mentally retarded programs. However, the Project did encompass a specific evaluative research design. The project proposal and its accompanying research design are the subject of Chapter 2.

THE SCHOOL DISTRICT SETTING

In 1969-70, the second full year of the Project's operation the Baltimore City Public Schools enrolled 193,150 pupils located in 213 elementary and secondary schools. The racial composition of the pupils enrolled was approximately 67% black and 33% white. During the last three decades, there has been a marked change in the population of

Baltimore City contributable to an influx of both black and white families, many of whom were unaccustomed to living in an urban environment, and an exodus of many established families to less crowded county areas. Of the remaining city population many families emphasize such characteristics as transiency, lower socio-economic levels, and apathy or discouragement concerning their environment. Many persons in these families need assistance to learn and improve their work skills. As a result, a number of educational programs are attempting to provide learning opportunities for pupils in all grade levels from preschool through grade twelve as well as adults. In addition, special education programs have been made available at all levels for pupils whose needs are not easily met in the regular school curriculum.

Estimates of the number of disadvantaged school children in Baltimore, on the criteria of educational and/or economic substandard status or circumstances, generally range from about 70,000 to 90,000. These estimates are made on the basis of the following types of information: U.S. census information, number of pupils receiving free lunches, health statistics, housing statistics, employment statistics, aid for dependent children, educational achievement levels, and principals' judgments. A recent survey[1] by the Baltimore City Public Schools' Division of Research indicated there were 81,502 disadvantaged pupils in Baltimore City.

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[1] This survey was done as of October 31, 1971 as a consequence of a requirement by the United States Office of Education under ESEA, Title I, to identify each poverty child.

Despite the fact that per-pupil expenditures in Baltimore City from non-federal funds continue to rise steadily ($606.10 for FY 69, actual; and $689.20 for FY 70, estimated) and notwithstanding that a variety of innovative programs have been introduced, some difficult education problems remain to be solved. By way of illustration, Baltimore City grade-by-grade median standardized reading achievement test scores generally fall almost a year below the Large Cities' norms. Another example is the citywide dropout rate, which, for recent years for secondary schools, has remained between 12 and 13 percent. In certain inner-city schools, moreover, the dropout rate is more than twice the citywide rate. Direct intervention is being provided by the Baltimore City Public Schools with the help of local and supplementary Federal funds in the hope of ameliorating these and other persistent problems.

A survey of school loan voting in Baltimore City for the period from 1947 to 1969 shows that no loan for the construction of school buildings has ever been turned down by the voters. The percent of registered voters voting on school loans during this period has generally remained steady, from about 30% to 40%. In 1959 a low of 17.3% voted on the school loan; in 1956 a high of 49.7% voted on the school loan.[1]

For most of the years surveyed, however, between 30 and 40 percent of the registered voters voted on these issues. An examination of the ratio of those voting for and against school construction loans indicates that popular support for school construction in Baltimore City has gradually decreased over the time period surveyed.

Mention should be made of the fact that a number of school buildings in the inner-city area are in need of renovation or replacement. Some of the needed construction will be accomplished using the $80 million loan approved by the voters in 1968, the last election year for school bonds.

Major adult occupations for parents of pupils in the Baltimore City Public Schools can be vizualized from Table 1.1. Data from 122,014 questionnaires or 64 percent of the total possible concerning adult occupations showed a total unemployment rate of 6.1% for males and 51.4% for females, heads of households. The major male occupation was that of manual worker (unskilled). The major female occupations (other than unemployment) varied with clerical, sales, and kindred workers being the highest category.

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[1] One Hundred Twenty-Seventh Report of the Board of School Commissioners July 1, 1964 - June 30, 1966 and the Fiscal Years 1964 and 1965, Table 85, Summary of School Loan Voting in Baltimore City 1947 to 1964, p. 88. 1966-68 data from BCPS Bureau of Records and Statistics.

Table 1.1

1970 Social and Economic Survey Data Contrasted to 1960 Census Data for Baltimore City Public Schools

	1970 System-Wide Survey		1960 Census	
1.	Median Persons in Family	6.1	Median Persons in all Occupied Dwelling Units	2.9
2.	Median Education Male Heads Female Heads	 10.9 11.3	Median School Years Completed by Persons 25 Years Old and Over	8.9
3.	Median Income for Families (1969)	$6,671	Median Income (1959) Families Families and Unrelated Individuals	 $5,659 $4,676
4.	Major Occupation Male Heads	Manual Worker	Major Occupation Employed Males	Operatives and Kindred Workers
5.	Major Occupation Female Heads	Unemployed	Major Occupation Employed Females	Housewives

Source: Division of Research and Development - Baltimore City Public Schools

Approximately 14% of the total Baltimore City population received aid from the Department of Social Services based on January 1969 statistics.[1]

In the 1969-70 ESEA Title I schools, 34% of the pupils came from homes dependent on public assistance as the "... main support of the family."[2]

Out of 168 census tracts in Baltimore City in 1960, 56 housed a majority of children who would be described as disadvantaged. The total number of public school children living in these 56 census tracts was 76,507 based on the 1960 Bureau of Census Reports. As indicated previously, this number has increased to 81,502 in 1971. These census tracts comprise in general the central core of the city referred to earlier as inner city. Approximately 46,100 children in the inner city had intelligence quotients of 85 and below. Table 1.2 depicts some differences between a disadvantaged and a non-disadvantaged area on a number of socio-economic and educational parameters.

Table 1.3 contains data on pupil enrollments in the Baltimore City Public Schools. In 1969-70 there were 633 elementary school trainable mentally retarded children enrolled in the Baltimore City Public Schools increasing to 706 in 1970-71, and to 726 in 1971-72.

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[1] "Semi-Annual Welfare Report" Department of Social Services, Baltimore City, January, 1969 and the Bureau of Instructional Research, Baltimore City Public Schools.

[2] Beverly W. Ellinwood, "Early School Admissions Program, 1969-70 Evaluation," Baltimore City Public Schools, a mimeographed report.

Table 1.2

Contrast between Disadvantaged and Non-Disadvantaged Inner City Areas of Baltimore City*

Item	Disadvantaged	Non-Disadvantaged
Number of persons per dwelling unit	3.62	3.05
Median age - male	29.8	37.7
Median age - female	29.3	38.3
Separated and Divorced per 1,000 (females only)	78.7	15.8
Median value of homes	$5,000.00	$19,100.00
Renter-occupied (contract rent)	$52.00/mo.	$136.00/mo.
Poor homes per 1,000 housing units (dilapidated, deteriorated, lacking sanitary facilities)	435.3	9.7
Overageness in grades	21.7%	3.7%
Nonpromotion rate	11.6%	1.2%
Median years below or above grade level (6th grade) for arithmetic	-1.1 below	+1.5 above
Median years below or above grade level (6th grade) for reading	-1.6 below	+1.4 above

*Data Source: 1960 Bureau of Census Reports and the Division of Research and Development, Baltimore City Public Schools. An Early School Admissions Project, Baltimore City Public Schools, July 1, 1962, p. 3.

Table 1.3

Pupil Enrollments, Baltimore City Public Schools

Program	1969-70	1970-71	1971-72	Est. 1972-73	Est. 1973-74
I. TOTAL NET ROLL, SEPT. 30	193,294	192,668	190,800	189,800	185,560
Grades Kdgn.-12	192,265	191,676	189,568	188,240	184,000
Other Programs	1,029	992	1,375	1,560	1,560
II. ELEMENTARY TOTAL	117,891	115,682	112,484	109,760	105,890
Kindergarten	15,128	13,934	13,201	12,560	11,700
Grades 1-6	94,753	94,664	92,858	90,740	87,710
Special Curric.	6,943	5,907	5,246	5,250	5,250
Phys. Handicapped	368	393	393	400	400
Trainable (Mentally Handicapped)	633	706	726	750	770
Day Camp Schools (Bragg & Highwood)	66	78	60	60	60
III. SECONDARY VOCATIONAL TOTAL	74,374	75,994	77,084	78,480	78,110
Jr. High, Regular and Accelerated	37,052	38,197	39,985	40,490	40,380
Jr. High Special Curriculum	5,467	5,591	5,269	5,270	5,270
Jr. High Phys. Handicapped	68	70	55	60	60
Jr. High Trainable Mentally Handicapped	383	46	49	50	50
Day Camp Schools (Highwood)	42	35	44	40	40
Sr. High Regular and Accelerated	24,808	24,342	24,256	24,800	24,540
Sr. High Special Curriculum	803	1,034	1,217	1,220	1,220
Vocational	5,751	6,679	6,209	6,550	6,550
IV. OTHER PROGRAMS TOTAL	1,029	992	1,375	1,560	1,560
Home and Hospital Instruction	212	210	208	210	210
Early School Admissions	817	782	1,167	1,350	1,350

CHAPTER 2

TRAINABLE MENTALLY RETARDED STAFF DEPLOYMENT PROJECT--GENERALIZED RESEARCH DESIGN

Among the programs of education for exceptional children which have developed and expanded most recently is that for the moderately mentally retarded. In professional literature such children are frequently referred to as trainable mentally retarded (TMR). The program of the Baltimore City Public Schools is now in its seventeenth year of operation. Through this experience many things have been learned. Extensive surveys have determined how large a group TMR children comprise. Measures for identifying them have been developed. Better ways to teach them are being investigated. For example, trainable mentally retarded children can usually work more successefully with concrete objects and materials than with symbols and abstract ideas. These children cannot successfully compete with students of much keener intellect than theirs. However, with proper guidance and curriculum adjustment many of them can be assisted to a point that will enable them to meet most of their life's demands.

THE PROBLEM

To identify TMR children and to determine the number of TMR children is only one important facet concerning trainable mentally retarded children. What is equally as important is the per pupil program cost for trainable mentally retarded children versus benefits derived. Resources for education cannot be allocated to various programs without consideration of cost-benefits. Traditionally, special education programs have the highest per pupil program costs. Classes must be kept small. Thus, there exists a great need for large numbers of teachers. Moreover, the classroom teacher requires the services of supportive personnel (reading specialists, therapists, guidance workers, etc.) in greater numbers than teachers who teach pupils in regular academic programs.

The decreased class size dictated by the individual learning needs of the trainable mentally retarded places greater demands on the school system for teaching positions. It is desirable for these teachers to have specialized training and experience in their field. To locate, employ and deploy highly trained and experienced teachers requires an additional outlay of funds, both for personnel and for the construction of the additional classrooms needed. While the teacher shortage has virtually disappeared for most programs in our schools there remains a shortage of trained personnel for most areas of special education. With the continued shortage of trained and qualified teachers of trainable mentally retarded children it becomes important to explore other means for staffing special classes. A research effort was thus directed toward an exploration of the effect of a revised staffing pattern for schools for the trainable mentally retarded which would permit the utilization of personnel with lesser training in the majority of the classroom assignments while maintaining the quality of instruction which is necessary to all good school programs. It was anticipated that the costs for personnel would be maintained at the same level or reduced without negatively affecting the program.

MANAGEMENT CYCLE FOR PROGRAM PLANNING, OPERATIONS, AND EVALUATION

As indicated previously, one of the problems of offering a program of special education for mentally deficient children is its high cost. This is due to the necessity of keeping classes small because instructional procedures for trainable children must be individualized. The resultant of this is the fact that it has usually created a need to secure greater numbers of highly trained teachers and to construct additional classes. These two developments enhance greatly the cost associated with trainable mentally retarded programs. This project then was an effort to explore a method of staffing classes through which trainable mentally retarded children would be served without lowering the quality of services but maintaining the same cost levels or possibly effecting a cost reduction in the program. Within this framework of concern, a management cycle for the program was developed which encompassed three logical phases: (1) planning; (2) operations; and (3) evaluation. Figure 2.1 portrays this management cycle involved in staffing classes for the trainable mentally retarded children.

A. COMPREHENSIVE PLANNING PHASE

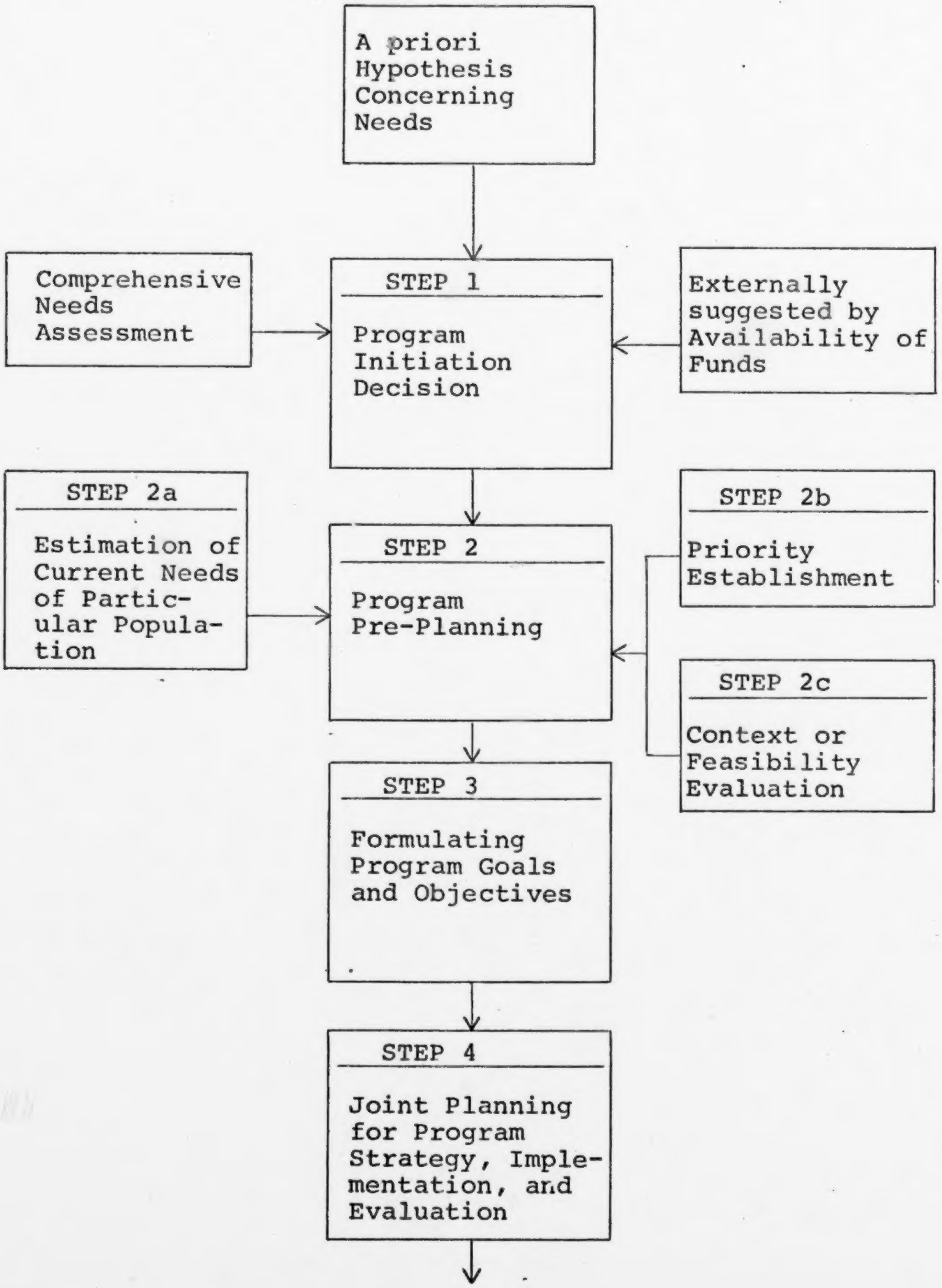

A priori Hypothesis Concerning Needs
Comprehensive Needs Assessment
STEP 1
Program Initiation Decision
Externally suggested by Availability of Funds
STEP 2a
Estimation of Current Needs of Particular Population
STEP 2
Program Pre-Planning
STEP 2b
Priority Establishment
STEP 2c
Context or Feasibility Evaluation
STEP 3
Formulating Program Goals and Objectives
STEP 4
Joint Planning for Program Strategy, Implementation, and Evaluation

Figure 2.1. Management cycle for program planning, operations, and evaluation of the Staffing Patterns for Classes of Trainable Mentally Retarded Children Project.

B. OPERATIONS PHASE

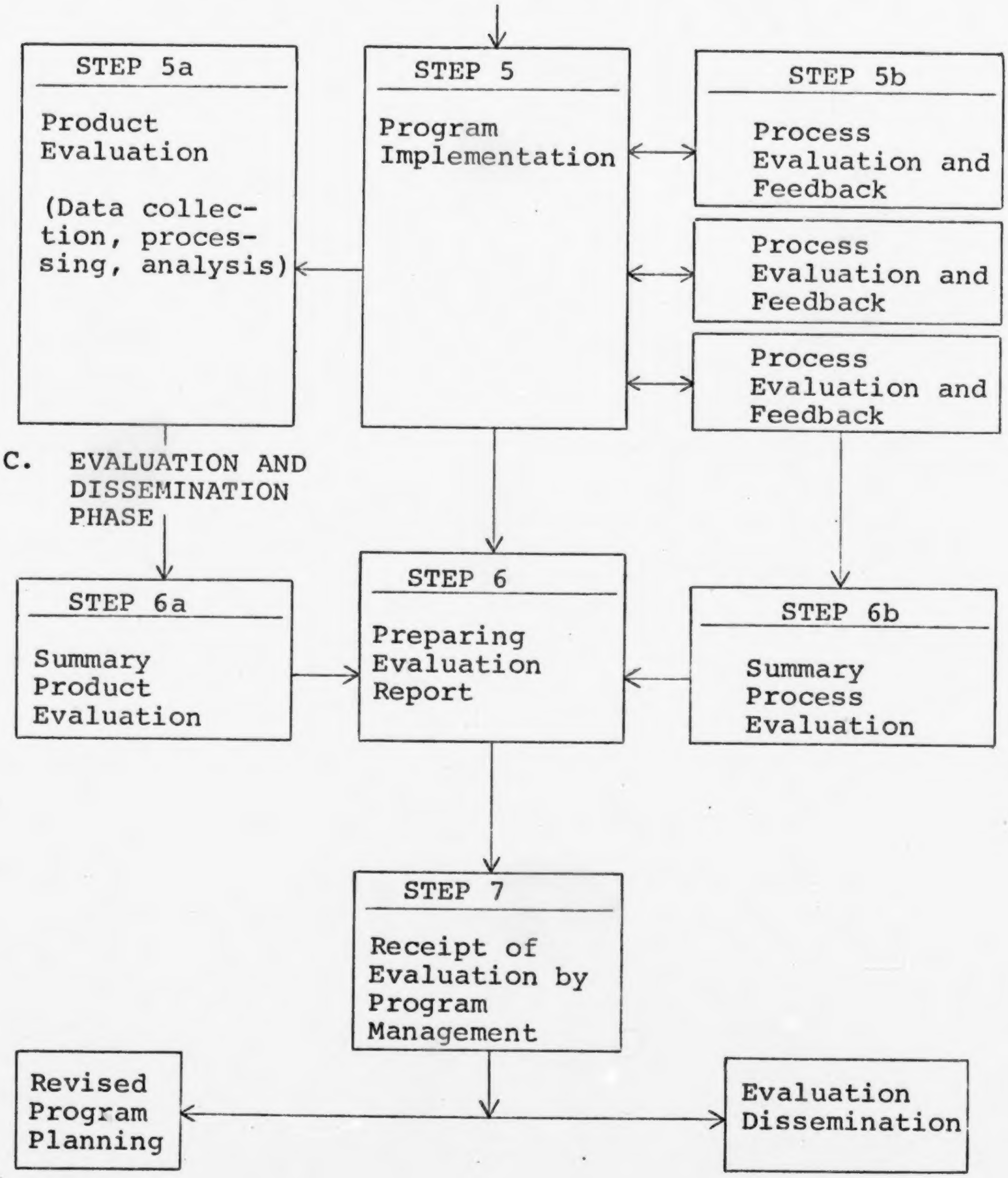

STEP 5a
Product Evaluation
(Data collection, processing, analysis)
STEP 5
Program Implementation
STEP 5b
Process Evaluation and Feedback
Process Evaluation and Feedback
Process Evaluation and Feedback
C. EVALUATION AND DISSEMINATION PHASE
STEP 6a
Summary Product Evaluation
STEP 6
Preparing Evaluation Report
STEP 6b
Summary Process Evaluation
STEP 7
Receipt of Evaluation by Program Management
Revised Program Planning
Evaluation Dissemination

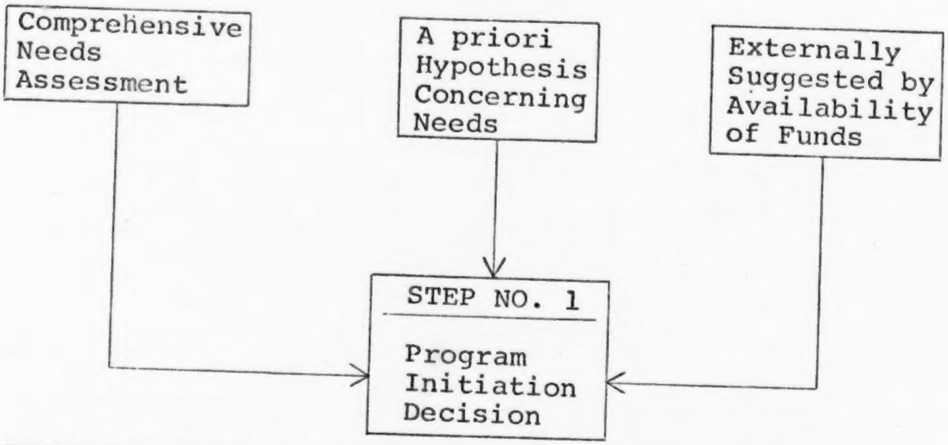
Figure 2.1 (continued). Management cycle for program planning, operations, and evaluation of the Staffing Patterns for Classes of Trainable Mentally Retarded Children Project.

A Communications Network for each step of the Management Cycle was proposed and the various areas of responsibility, accountability, and mutual cooperation for each office or agency involved determined. Figures 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, and 2.8 indicate the Communications Network for each step as well as the key ideas involved in each step. It is not the intention of the authors to recount in detail everything that took place during each step of the management cycle. However, generalized considerations will be discussed at the appropriate step in the management cycle.

PROGRAM INITIATION DECISION PHASE

As indicated earlier, the Special Education Division of the Baltimore City Public Schools undertook a comprehensive needs assessment of the trainable mentally retarded program. A great need existed for qualified teachers for trainable mentally retarded children. Such personnel were not available for employment in the numbers needed. To get around this need, the Special Education Division suggested a pilot program involving changes in staff deployment. Funds for absorbing the additional costs involved were available through Title VI-A of the Elementary and Secondary Education Act. The Research and Development Division assisted in gathering data which supported the decision to proceed to Step #2, the Program Pre-Planning phase.

A. Comprehensive Planning


Comprehensive Needs Assessment
A priori Hypothesis Concerning Needs
Externally Suggested by Availability of Funds
STEP NO. 1
Program Initiation Decision

KEY IDEAS FOR STEP NO. 1

Impetus for program from

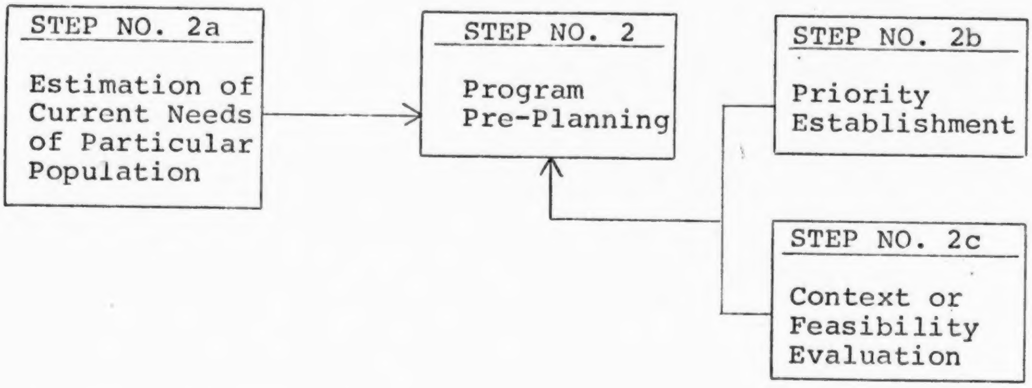
(1) Comprehensive system-wide needs assessment
(2) A priori hypothesis
(3) Availability of funds
(4) Combination of above reasons

Communication Network for Step No. 1 of Management Cycle

Office	Involvement Y = Yes P = Possibly
Advisory or Steering Committee	P
Community Participation	Y
Contract Evaluator	P
Educational Testing Services (BCPS)	P
Finance and Accounting (BCPS)	
Instructional Division--Concerned Superintendent(s) (BCPS)	Y
Instructional Division--Project Coordinator or Curriculum Supervisor (BCPS)	Y
Personnel Division (BCPS)	
Research Division (BCPS)	Y
School Principals and Teachers	P
Special Projects and Programs Office (BCPS)	Y
State Dept. of Education (Or Foundation)	P
U.S. Office of Education	P

Figure 2.2. Communications Network for the Management Cycle for Program Planning, Operations and Evaluation, Step No. 1 Program Initiation, Decision.

A. Comprehensive Planning (continued)


STEP NO. 2a
Estimation of Current Needs of Particular Population
STEP NO. 2
Program Pre-Planning
STEP NO. 2b
Priority Establishment
STEP NO. 2c
Context or Feasibility Evaluation

KEY IDEAS FOR STEP NO. 2

(1) Specific needs assessment re particular population and particular program
(2) Resources needed vs resources available
(3) Establishment of priorities
(4) Program feasibility (special staffing needs, community support, local school system committment for space, overhead costs, matching funds, etc.)

Communication Network for Step No. 2 of Management Cycle

Office	Involvement Y = Yes P = Possibly
Advisory or Steering Committee	P
Community Participation	Y
Contract Evaluator	P
Education Testing Services (BCPS)	P
Finance and Accounting (BCPS)	P
Instructional Division--Concerned Superintendent(s) (BCPS)	Y
Instructional Division--Project Coordinator or Curriculum Supervisor (BCPS)	Y
Personnel Division (BCPS)	P
Research Division (BCPS)	Y
School Principals and Teachers	P
Special Projects and Programs Office (BCPS)	Y
State Department of Education (Or Foundation)	Y
U.S. Office of Education	P

Figure 2.3. Communications Network for the Management Cycle for Program Planning, Operations and Evaluation, Step No. 2 Program Pre-Planning.

A. Comprehensive Planning (continued)

STEP NO. 3

Formulating Program Goals and Objectives

KEY IDEAS FOR STEP NO. 3

(1) Translating broad goals into measurable objectives
(2) Representative performance objectives satisfying three conditions
(3) Two classes of objectives: Program objectives vs management objectives
(4) Two kinds of standards for specific program vs procedural standards guiding management of all programs

Communications Network for Step No. 3 of Management Cycle

Office	Involvement Y = Yes P = Possibly
Advisory or Steering Committee	P
Community Participation	Y
Contract Evaluator	P
Educational Testing Services (BCPS)	P
Finance and Accounting (BCPS)	
Instructional Division--Concerned Superintendent(s) (BCPS)	Y
Instructional Division--Project Coordinator or Curriculum Supervisor (BCPS)	Y
Personnel Division (BCPS)	
Research Division (BCPS)	Y
School Principals and Teachers	P
Special Projects and Programs Office (BCPS)	Y
State Department of Education (Or Foundation)	Y
U.S. Office of Education	P

Figure 2.4. Communications Network for the Management Cycle for Program Planning, Operations and Evaluation, Step No. 3 Formulating Program Goals and Objectives.

A. Comprehensive Planning (continued)

STEP NO. 4

Joint Planning for Program Strategy, Implementation, and Evaluation

KEY IDEAS FOR STEP NO. 4

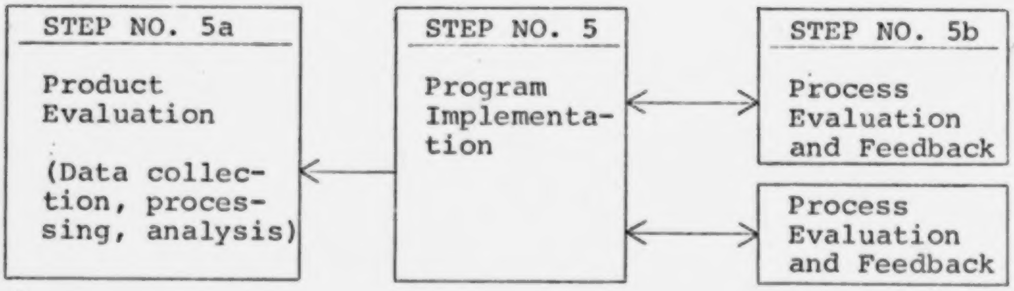
(1) Selection of Instructional services
(2) Selection of supporting services
(3) Mobilization of staff and financial resources
(4) Process evaluation: Program implementation
(5) Process evaluation: Program progress
(6) Product or outcome evaluation
(7) Two purposes of product evaluation: intrinsic vs extrinsic
(8) Evaluation design
(9) Possible limitation of evaluation design re particular program and situation

Communications Network for Step No. 4 of Management Cycle

Office	Involvement Y = Yes P = Possibly
Advisory or Steering Committee	P
Community Participation	Y
Contract Evaluator	P
Educational Testing Services (BCPS)	P
Finance and Accounting (BCPS)	Y
Instructional Division--Concerned Superintendent(s) (BCPS)	Y
Instructional Division--Project Coordinator or Curriculum Supervisor (BCPS)	Y
Personnel Division (BCPS)	Y
Research Division (BCPS)	Y
School Principals and Teachers	Y
Special Projects and Programs Office (BCPS)	Y
State Department of Education (Or Foundation)	Y
U.S. Office of Education	P

Figure 2.5. Communications Network for the Management Cycle for Program Planning, Operations and Evaluation, Step No. 4 Joint Planning for Program Strategy, Implementation, and Evaluation.

B. Operations


STEP NO. 5a
Product Evaluation
(Data collection, processing, analysis)
STEP NO. 5
Program Implementation
STEP NO. 5b
Process Evaluation and Feedback
Process Evaluation and Feedback

KEY IDEAS FOR STEP NO. 5

(1) Process evaluation procedures carried out
    (a) All parts of program implemented?
    (b) Program progressing as planned?
    (c) Modification required?
    (Process evaluation relates primarily to management objectives, which are concerned with staff or administrative functions.)

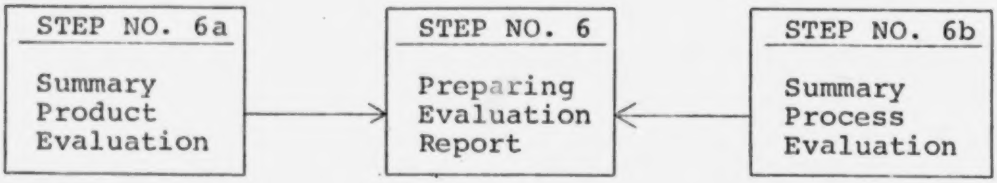
(2) Product or outcome evaluation procedures carried out
    (a) Administration of data gathering instruments
    (b) Data processed and analyzed as it is available
    (Product outcome evaluation relates to program objectives which are concerned with changes in student behavior (or changes in teacher behavior.)

Communications Network for Step No. 5 of Management Cycle

Office	Involvement Y = Yes P = Possibly
Advisory or Steering Committee	P
Community Participation	P
Contract Evaluator	P
Educational Testing Services (BCPS)	Y
Finance and Accounting (BCPS)	Y
Instructional Division--Concerned Superintendent(s) (BCPS)	Y
Instructional Division--Project Coordinator or Curriculum Supervisor (BCPS)	Y
Personnel Division (BCPS)	Y
Research Division (BCPS)	Y
School Principals and Teachers	Y
Special Projects and Programs Office (BCPS)	Y
State Department of Education (Or Foundation)	Y
U.S. Office of Education	P

Figure 2.6. Communications Network for the Management Cycle for Program Planning, Operations and Evaluation, Step No. 5 Program Implementation.

C. Evaluation and Dissemination


STEP NO. 6a
Summary Product Evaluation
STEP NO. 6
Preparing Evaluation Report
STEP NO. 6b
Summary Process Evaluation

KEY IDEAS FOR STEP NO. 6

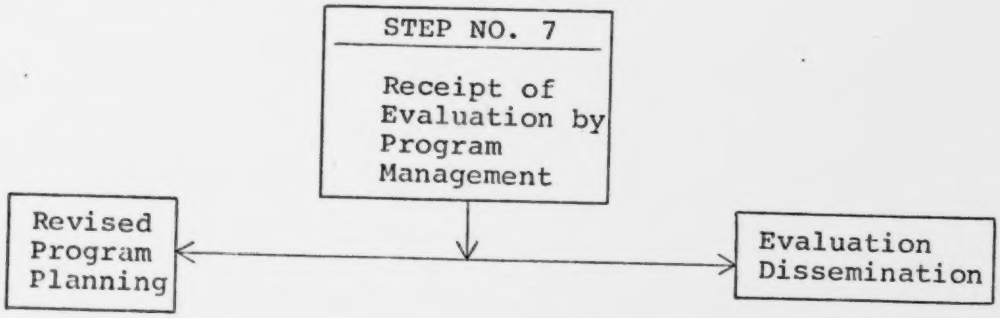
(1) Recap of program rationale, goals, objectives
(2) Description of program as it actually operated
(3) Success of program in meeting goals and objectives
(4) Unexpected successes
(5) Recommendations for program improvement
(6) Interim feedback prior to release of final report

Communications Network for Step No. 6 of Management Cycle

Office	Involvement Y = Yes P = Possibly
Advisory or Steering Committee	
Community Participation	
Contract Evaluator	P
Educational Testing Services (BCPS)	
Finance and Accounting (BCPS	
Instructional Division--Concerned Superintendent(s) (BCPS)	
Instruction Division--Project Coordinator or Curriculum Supervisor (BCPS)	
Personnel Division (BCPS)	
Research Division (BCPS)	Y
School Principals and Teachers	
Special Projects and Programs Office (BCPS)	Y
State Department of Education (Or Foundation)	
U.S. Office of Education	

Figure 2.7. Communications Network for the Management Cycle for Program Planning, Operations and Evaluation, Step No. 6 Preparing Evaluation Report.

C. Evaluation and Dissemination (continued)



KEY IDEAS FOR STEP NO. 7

(1) Review of draft of report
  (a) To verify actual statements re program operation
  (b) To identify strengths, weaknesses, limitations of study
(2) Review by the Superintendent(s)
(3) Attention to program improvement
(4) Repeat of management cycle
(5) Dissemination of evaluation report

Communications Network for Step No. 7 of Management Cycle

Office	Involvement Y = Yes P = Possibly
Advisory or Steering Committee	P
Community Participation	Y
Contract Evaluator	P
Educational Testing Services (BCPS)	Y
Finance and Accounting (BCPS)	Y
Instructional Division--Concerned Superintendent(s) (BCPS)	Y
Instructional Division--Project Coordinator or Curriculum Supervisor (BCPS)	Y
Interested Parties within and outside the school system	Y
Personnel Division (BCPS)	Y
Research Division (BCPS)	Y
School Principals and Teachers	Y
Special Projects and Programs Office (BCPS)	Y
State Department of Education (Or Foundation)	Y
U.S. Office of Education	Y

Figure 2.8. Communications Network for the Management Cycle for Program Planning, Operations and Evaluation, Step No. 7 Receipt of Evaluation by Program Management.

PROGRAM PRE-PLANNING

After the decision to initiate a trainable mentally retarded project was accepted, the Special Education Division called on various departmental agencies for assistance. The Communications Network for Step #2 was followed. Program pre-planning is important because it is at this stage of the management cycle that the school district's resources are mobilized. The final decision on whether or not a project should be developed and implemented must often wait until this stage of the management cycle is completed.

The Special Education Division had to consider such questions as: (1) What were the current needs of the trainable mentally retarded? (2) What program should be developed to meet these needs? (3) How many trainable mentally retarded children should the project enroll? On what basis should children be excluded? Included? (4) Which schools should be involved? (5) Is the proposed program one that the school system is capable of implementing? (6) Are special staffing requirements to be instituted? and (7) If the program is to be funded from outside sources, what commitments must the school system make in the way of space allocation, supporting personnel, and overhead costs?

The role of the Research Division at this stage was to provide and to interpret information focused on the trainable mentally retarded program. Questions such as the following had to be raised and considered: (1) What were the implications of the trainable mentally retarded program with respect to scope, priorities, and evaluation? (2) Should the evaluation be done internally or externally? and (3) How would fund limitations affect the research and evaluation design?

Consideration of these questions led the Division of Special Education to select staffing as the focus of the creative solution to the trainable mentally retarded program problems. Because of staff recruitment and staff training problems, the pupils involved were limited to those enrolled in two schools: (1) The Claremont School #307; and (2) The Trainable School #308. The Claremont School was selected as the experimental or pilot school and The Trainable School #308 as the control school.

FORMULATING PROGRAM GOALS AND OBJECTIVES

Step #3 is the point at which educational values and standards initially expressed in general and abstract terms are translated into operational terms. In this process, a distinction must be made between goals and objectives. Goals are written in broad general terms and they are important for several reasons. They tend to be invigorating and inspire individuals to greater efforts. They also serve to explain the purposes of the program to the layman and the community.

Objectives, as distinguished from goals, are more concrete, more precise, and usually more amenable to measurement. Formulating goals and objectives for the trainable mentally retarded program was the prerogative of the Special Education Division. The Research Division suggested ways to make performance objectives clear, precise, and measurable. Performance objectives were developed so that the following three conditions were to be satisfied: (1) the performance expected of students was to be stated; (2) the means that were to be used to measure the desired level of performance were to be stated; and (3) the desired level of student performance was to be stated.

Before spelling out the goals and objectives of the trainable mentally retarded program it is useful and helpful to distinguish between classes of objectives. Two major types of objectives can be distinguished: (1) program objectives; and (2) management objectives. Program objectives are concerned with changing student performance or teacher performance. Management objectives are usually staff or administrative functions designed to advance program goals.

Chapter 3 deals with the implementation and operation phase of the Trainable Mentally Retarded Project. Management objectives and performance objectives for the Trainable Mentally Retarded Project are spelled out in detail in Chapter 3.

JOINT PLANNING FOR PROGRAM STRATEGY, IMPLEMENTATION, AND EVALUATION

At this stage of the management cycle, much cooperative planning is required in the Communications Network indicated in Figure 2.5. The Special Education Division had to judge the appropriateness and potential efficacy of the instructional and supportive services selected for the trainable mentally retarded program. Such questions as the following were important: (1) Which instructional services, teaching strategies, methods, materials would best advance the goals and objectives of the trainable mentally retarded program? (2) What is the best way to ensure that the program is being implemented as planned (Process Evaluation)? (3) How to measure the effectiveness of the program (Product Evaluation)? Answers to these questions and others of a similar nature involved the Program Planning Strategy phase of this project.

In the planning of the evaluation design provision was made for both (1) intrinsic evaluation and (2) extrinsic evaluation. Intrinsic evaluation was concerned with feeding back program information at various points of the management cycle. Extrinsic evaluation was concerned with providing information as required to the funding agency in this instance, the United States Office of Education and the Maryland State Department of Education.

Program evaluation for the trainable mentally retarded project was divided into two types: (1) process evaluation; and (2) product or outcome evaluation. With respect to process evaluation, both the Special Education Division and the Research Division had to agree to the approaches that were to be followed for process evaluation. Important considerations were given to the following concerns re process evaluation: (1) Procedures to explain clearly to the principals, teachers, and other personnel involved in the project the goals and objectives of the project and to ensure these persons understand such; (2) Development of job descriptions of project personnel so that each person knows his assigned role and tasks; (3) Institution of a clear chain of command and a communications network so that problems could be addressed and resolved; (4) Identification and Recruitment of project personnel; (5) Coordination for various support services required by the project; (6) Procedures to explain to the community and to the staff the rationale, purposes, and expectations of the project; and (7) Development of plans for site visitations to observe the program in actual operation.

Product or outcome evaluation involved the development of the actual research and evaluation design for the trainable mentally retarded program. In the evaluation design consideration was given to the problem of not imposing procedures, while important from a research angle, would impose undue hardships on the operational personnel. Consequently excessive testing, recording of data, etc. was avoided wherever feasible. For the trainable mentally retarded project, some of the important questions for the research and evaluation design involved: (1) the experimental design that would best fit the project and still serve the needs of evaluation; (2) the kinds of instruments that would best measure the degree to which performance and management objectives were attained; (3) the use to be made of existing test programs; and (4) procedures for data collection, data processing, and data analysis.

PROGRAM IMPLEMENTATION-- THE OPERATIONS PHASE

Figure 2.6 depicts the Communications Network for Program Implementation. Program Implementation is the concern of the operations agency--in this case, the Special Education Division. At this point in the management cycle the Special Education Division must see that the trainable mentally retarded project is set in motion in accordance with the agreed upon program plan or proposal. Special Education's concerns centered around: (1) whether or not the project was functioning effectively in terms of stated management and performance objectives and the needs of the trainable children involved; and (2) whether or not situations not foreseen might require special attention or require program modification while the project was actually in progress.

The Research Division has certain responsibilities at this stage of the management cycle. The chief concern is whether or not the program monitoring procedures were instituted. Also of particular importance is the process evaluation and the avenues for feedback concerning the program to staff and project director. Of course, the Research Division must also be concerned at this point with the administration of data gathering instruments according to the previously established schedule and the specific persons involved.

EVALUATION AND DISSEMINATION

Figures 2.7 and 2.8 involve the Evaluation and Dissemination phases of the management cycle for program control. Also shown in these figures are the key ideas involved in preparing the evaluation report for any program. Such a procedure was adhered to with respect to the Trainable Mentally Retarded Project.

CHAPTER 3

IMPLEMENTATION AND OPERATION OF THE TRAINABLE MENTALLY RETARDED PROJECT

As indicated in Chapter 2, a management cycle procedure involving Planning, Operations, and Evaluation was followed. Chapter 3 is concerned specifically with the operational phase. Chapter 4 is concerned with the evaluation phase.

TRAINABLE SCHOOLS SELECTION

The Claremont School #307 was selected as the experimental school for the Trainable Mentally Retarded Project. The Trainable School #308 was selected to serve as the control school. In order to achieve the management objectives of the Project, all staff members in School #307 were transferred to other teaching assignments. Only the principal was retained.

MANAGEMENT OBJECTIVES FOR THE TRAINABLE MENTALLY RETARDED PROJECT

The operational plan for the Project involved the following management objectives:

1. To provide nine classrooms for trainable mentally retarded students.
2. To ensure that each class of trainable mentally retarded children had ten students.

3. To ensure that each class of trainable mentally retarded children had a classroom Teacher Intern.

4. To provide one Master Teacher to work with each group of three classroom interns for on the job training and supervision.

5. To provide an instructional day for each class of traninable mentally retarded students from 9:00 a.m. to 2:00 p.m.

6. To provide each trainable mentally retarded child with a good, wholesome lunch.

7. To provide a lunch period in which eating skills and nutritional knowledge could be taught.

8. To provide time for in-service training for Teacher Interns.

9. To establish an in-service training schedule for Teacher Interns.

10. To equip trainable mentally retarded children with appropriate instructional materials to facilitate the trainable mentally retarded learning program.

11. To provide procedures for involving parents of the trainable mentally retarded in the program.

12. To utilize resource persons as an integral part of the staff training program for all project staff members.

13. To provide a control school and an experimental school for the Trainable Mentally Retarded Project.

14. To initiate an orientation program and preservice training program for staff members, particularly Teacher Interns and Master Teachers.

15. To provide Social Worker Assistance to the program when needed.

16. To provide a Speech Teacher to work with those pupils requiring help in this area.

17. To reduce per pupil costs for educating the trainable mentally retarded utilizing a team teaching staff deployment pattern rather than the conventional self-contained classroom

teaching pattern without negatively affecting pupil growth.

PERFORMANCE OBJECTIVES FOR THE TRAINABLE MENTALLY RETARDED PROJECT

In the Management Cycle discussed in detail in Chapter 2, Step #3 involved the formulation of program goals and objectives. Program goals were defined as broad general statements whose intent were to invigorate and to inspire persons. They were to serve to explain the program in terms the layman in the community could understand. On the other hand, objectives were to flow from these general, broad goals and be more concrete, more precise, and more amenable to measurement. Unfortunately performance objectives were not specified in the detail required to meet the three conditions suggested previously in Step #3 of the management cycle. The three conditions that should be satisfied for performance objectives are: (1) the performance expected of the students (teachers, persons, etc.) should be clearly stated; (2) the means to be used to measure the desired performance should be clearly specified; and (3) the desired level of performance should be clearly specified and so stated. Despite the fact that performance objectives were not developed in accordance with the criteria enumerated, the project did seek to attain a number of generalized goals and a few specific objectives. These are enumerated as follows:

(1) The Illinois Test of Psycho-Linguistics Abilities will be administered to both control and experimental trainable children. This test will be administered on a pre-test and post-test basis. The objective to be attained is that the experimental trainable mentally retarded will have growth scores equal to or significantly higher than the control students.

(2) The Vineland Social Maturity Scale will be administered to both control and experimental trainable mentally retarded children. The objective to be attained is that the experimental students will score as high or higher on this test as the control students taught in the conventional manner.

(3) The Peabody Picture Vocabulary Test will be administered to trainable students in the Project. The purpose of this objective is to show that the trainable students in School #307 will do as well or better than the control trainable students in school #308.

(4) A Parent Questionnaire will be administered to parents of trainable mentally retarded children in both the control and experimental school. The objective here is to determine if parents of children in the experimental school were more involved, understood better, and supported to a greater extent the trainable mentally retarded program than the parents of children in the control school.

(5) Per pupil costs for instructional personnel for both control and experimental staffs will be computed. The objective is to show that per pupil costs for instructional personnel for the experimental students will be less or no more than per pupil costs for the control students.

(6) Pupil progress will be rated in both control and experimental schools by special education supervisors, principals and other qualified administrators of trainable programs. Such ratings will be used as subjective measures to supplement objective tests for evaluating the Project.

(7) Project staff were to develop written guides for trainable mentally retarded children in the following learning areas:

- (a) Pupil Arrival Time
- (b) Arts and Crafts
- (c) Physical Education Activities
- (d) Home Arts
- (e) Arithmetic
- (f) Communications Skills
- (g) Nutritional Skills and Social Graces

(8) The Kappitz Human Figure Drawing Test will be administered to Project trainable pupils. The purpose of the objective is to show that trainable students in the experimental School #307 will do as well or better than those in the control School #308.

RECRUITMENT OF TRAINABLE MENTALLY RETARDED PROJECT PERSONNEL

Recruitment and Selection of Classroom Interns

Classroom Interns were selected to participate in the Project on the basis of a written test and an oral screening interview. In addition to this written test investigating the academic background of each candidate, a representative of the Personnel Division administered the Ohio State Test of Intelligence to the candidate. Oral interviews were conducted by a screening team consisting of the Supervisor for Programs for the Mentally Retarded, the Principal of the trainable experimental school, and several other special education supervisors. A job description for Classroom Teacher Interns is shown as Figure 3.1.

Teacher Interns were identified through several procedures, such as the following:

(1) Schools in the neighborhood of the experimental school were contacted for the names of substitute teachers who were not qualified for full time assignments but who had served successfully in short term trainable teaching assignments;

(2) Persons who applied with the Personnel Division of the Baltimore City Public Schools for teaching assignments but who lacked a degree were considered for this project; and

(3) Individuals who had served well as aides in classrooms and had been evaluated as being capable of greater responsibilities and more independent operation within the school environment. The candidates were first interviewed by a representative of the Personnel Division. Then candidates went through the selection procedure as indicated in the opening paragraph.

Recruitment and Selection of Master Teachers

All successful teachers of the trainable mentally retarded as well as successful teachers of the educable mentally retarded were considered for the role of Master Teacher for this Project. Since few teachers of the trainable mentally retarded met State Certification standards, those who could be considered were limited in number. In addition to successful performance in teaching assignment, personality characteristics were also evaluated because the Master Teacher

CLASSROOM TEACHER INTERNS

I. Position

To serve with the Senior Teacher in implementing the total program of the school and to be responsible, under the direction of the Senior Teacher, for follow-up teaching and practice work with the pupils

II. Proposed Duties

1. Drilling, reviewing, and practicing with pupils the lessons introduced by the Senior Teacher
2. Helping pupils to experience healthful and safe living through appropriate activities
    a. Teaching suitable games and exercises
    b. Teaching habits of personal cleanliness and health
    c. Teaching habits and means of safety
    d. Supervising play and lunch periods
    e. Communicating with nurse and with Senior Teacher regarding pupils' physical problems
3. Helping pupils experience activities in the fields of art, music, and literature
4. Helping pupils to find ways of expressing their ideas and understandings
    a. Telling and reading stories
    b. Carrying on conversations
    c. Taking children on trips and providing them with opportunities to talk about what they see and do
    d. Providing for dramatic play through which children can express their thoughts and feelings
5. Seeing that materials are in readiness, making arrangements for visits and trips, arranging the physical environment of the classroom or play area
6. Performing clerical and "housekeeping" duties under the direction of the Senior Teacher

Figure 3.1. A Job Description for Classroom Teacher Interns for the Trainable Mentally Retarded Project.

must be able to work closely with and supervise three to four Teacher Interns. The Master Teacher was to function as a team teaching leader. Persons with good organizational ability were given priority with respect to employment as Master Teachers.

Whereas Classroom Teacher Interns were selected to participate in the Project on the basis of both a written test and oral interview, the Senior Teachers were selected for the Project on the basis of an oral screening interview only. The screening team consisted of the Area Superintendent for Special Education, the Supervisor for Programs for the Mentally Retarded, the Principal of the Experimental School, and several other Special Education Supervisors. Candidates' previous teaching and supervisory experience were carefully evaluated since each Senior Teacher would be responsible for the supervision of both three traninable Teacher Interns and thirty trainable mentally retarded students.

A job description for Senior Teachers is shown in Figure 3.2.

Recruitment and Selection of Resource Personnel

Resource personnel in physical education, music, and art, speech therapy, social services, and home economics were assigned to the Project by the administrative head of

SENIOR TEACHER

I. Position

To serve as the direct head of a group of three junior teachers and to assume responsibility for the instruction of 50 trainable pupils

II. Proposed Duties

1. To develop a balanced educational program for the pupils
2. To utilize all available resources in the development of the program
3. To provide experiences for the pupils in the following areas:
    - a. Enriching ideas and developing language skills
    - b. Helping pupils to experience healthful and safe living through appropriate activities
    - c. Providing pupils with experiences with a variety of materials in the fields of art, music, and literature through which ideas may be gained and expressed
    - d. Providing training and experiences which will enable pupils to become more self-sufficient and socially accepted
4. Scheduling, coordinating, and guiding the Teacher Interns in their work with the pupils
5. Guiding the staff in maintaining records of the pupils and the project, including descriptive and anecdotal records as well as the accumulation of facts and statistics relating to the project
6. Presenting all new concepts and skills initially through direct teaching of the pupils
7. Cooperating with the principal in initiating and maintaining community contacts
8. Working with parents in interpreting the work of the school, the progress of the pupils, and the opportunities for parent support and participation

Figure 3.2. A Job Description for the Senior Teachers for the Trainable Mentally Retarded Project.

each resource area. Each person was selected on the basis of competence in his field of specialization and an indicated interest and desire in working with trainable mentally retarded children.

The speech therapist was recruited from the staff of that department. Few speech therapists had been exposed to the trainable mentally retarded child while in the process of training and the majority of persons interviewed rejected the assignment. Because the speech therapist had to perform tasks which were basically different from her usual tasks, a speech therapist Supervisor worked very closely with the speech therapist selected for the Project. Not only was therapy provided to pupils with intense and severe problems but a regular program of speech improvement was provided within the classrooms.

The Parent Liaison Worker was selected from among the School Aides who were interviewed for employment in the Project. This assignment required the selection of someone who understood the school program and could relate easily and well to the families of the pupils. The Pupil Personnel Division was not able to obtain a trained social worker for this position. Thus, the Parent Liaison Worker was selected from among the School Aides who were employed in the Project.

THE ORIENTATION PROGRAM FOR TRAINABLE PROJECT PERSONNEL

The research design for the Trainable Mentally Retarded Project called for an orientation program for Project Personnel. The purposes of the orientation program were many-fold but the primary purpose was to acquaint personnel concerned with the Project's goals and objectives, particularly Senior Teachers, Teacher Interns, and Resource Teachers.

The Specialist for Trainable Programs was responsible for the design and implementation of the Orientation Program for personnel concerned with the Trainable Mentally Retarded Project. The Orientation Program was scheduled for one week (five days) and held in late August. Three Orientation Programs were conducted: (1) August, 1968; (2) August, 1969; and (3) August, 1970. Each Orientation Program followed the same basic format. The following paragraphs cover the typical days activities in the Orientation Program.

Monday-Orientation Program. The Supervisor for Programs for the Mentally Retarded discussed the Trainable Mentally Retarded Project, focusing on goals and objectives. He also discussed with the participants basic information on the mentally retarded child,[1] such as what causes mental retardation, multiple handicaps in the mentally retarded, variations in personal-social relationships in the mentally retarded, the educational needs of the mentally retarded, some of the special methods used to teach the mentally retarded, and the readiness for learning problems and opportunities of the mentally retarded. The Area Superintendent then, outlined in detail how Trainable Mentally Retarded Children could be identified.[1] He next explained the placement procedures used in the Baltimore City Public Schools regarding the placement of Trainable Mentally Retarded Children. Following this the Principal of the experimental school discussed conditions to be found in the experimental school and particularly shared information with the Senior Teachers and the Classroom Teacher Interns about the trainable pupils enrolled in School #307. Such information on the children enrolled at the experimental school would do much to allay the fears and doubts that the Teacher Interns might have regarding trainable children.

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[1] See Harold M. Williams, The Retarded Child Goes to School. U.S. Office of Education, 1960.

Lastly, the Director of Testing and his Specialists, illustrated the clues that the Teacher Interns could glean from standardized tests about children suspected to be mentally retarded. Such clues could be utilized by the Senior Teachers and Teacher Interns to construct an instructional program that would be relevant and meaningful to trainable children. The testing personnel also discussed a number of Do's and Don't's for teachers who constructed their own tests for trainable children.

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[1] See Charles A. Ullman, Identification of Maladjusted School Children. United States Public Health Service Monograph No. 211, 1957. See also George T. Donahue and Sol Nichtern, Teaching the Troubled Child. The Free Press, 866 Third Avenue, New York, 1968.

Tuesday-Orientation Program. Whereas Monday's activities for the Orientation Program focused on the child, Tuesday's focused on the roles played by Project personnel. The morning sessions dealt with the roles of the Teacher Interns and Senior Teachers. The afternoon session was concerned about the role of resource personnel for the Project. The Area Superintendent for Special Education and the Supervisor for Trainable Programs discussed the roles they saw the Teacher Interns and Senior Teachers would fulfill in accordance with the needs of the Trainable Mentally Retarded Project. These roles, of course, were previously detailed in Figure 3.1 for Teacher Interns and Figure 3.2 for Senior Teachers. With respect to the role that resource personnel would fulfill in the Trainable Mentally Retarded Project, each particular resource person concerned discussed the role and relationship he or she would fulfill. For example, the Speech Therapist indicated how she would deal with speech defects in the trainable child; the Music Teacher indicated the role she would play in bringing music opportunities to trainable children and their teachers; the Physical Education Teacher explained the physical education activities that would be appropriate to trainable children; the Parent Liaison Worker discussed how she would function as a bridge between the school and the home; and the School Nurse chatted about the resources her office provided the trainable child and the teachers concerned.

Wednesday-Orientation Program. This day's orientation activities centered on housekeeping tasks. The Teacher Interns were shown the actual records that they would have to keep for not only the Trainable Project but also for the school district itself. For example, the Teacher Intern would have to keep roll sheets so that pupil attendance could be processed by the system's centralized data processing division. Cumulative records on the trainable child would have to be maintained. The school district's system-wide testing program was explained so that the Teacher Intern would know what her responsibility entailed in this regard. Anecdotal records would still have to be maintained correctly. The Teacher Intern still would be held responsible to develop daily and weekly lesson plans of course, each Teacher Intern could lean heavily in the course of the academic year upon her Senior or Master Teacher. The Principal and Senior Teachers spent the afternoon explaining in detail how the school day was to be organized and how classroom activities should be organized for effective pupil learning.

Thursday-Orientation Program. The activities for this part of the Orientation Program centered on the materials and equipment used in the trainable instructional program. Both Teacher Interns and Senior Teachers were shown how to use audio-visual learning equipment and then under supervision of audio-visual specialists demonstrate their compentency in actually operating the equipment. Teacher Interns and Senior Teachers were actually shown and then trained to operate opaque projectors, overhead projectors, film strip projectors, slide projectors, record players, etc. Instructional Specialists, moreover, discussed and demonstrated how instructional materials and equipment as the following could be utilized efficiently and effectively in the trainable instructional program: (1) language masters; (2) language lotto; (3) matrix games; (4) instructional activity kits; (5) puppet playmates; (6) Peabody language kits; (7) audio flash cards; (8) listening posts; and (9) various types of audio-visual projectors.

Friday-Orientation Program. The final day of the Orientation Program was concerned about how and where the Teacher Interns could get information regarding the trainable children in their class and classroom concerns such as appearance, routines, and learning centers. The Director of Testing discussed intelligence quotients of trainable children and their relationship to mental age. The implications of these two factors for trainable children were considered in detail. The implications for instruction of standardized tests and teacher prepared tests were also considered in great detail in order that the Teacher Interns learn how to utilize these data correctly. What information could be gleaned from school records such as the cumulative record, clinical records, health and personal inventory records, test records was also covered in depth. Teacher

Interns were taught how to utilize the data furnished by the trainable child's previous teachers.

The afternoon session focused on the classroom and the Teacher Interns. The appearance of the trainable classroom was discussed particularly its physical environment; arrangement of equipment, desks, chairs, supplies, and teaching materials; classroom decorations; and how to involve the trainable children in classroom housekeeping tasks. Next, the Principal discussed a number of routine activities indicating how such routine activities could be utilized as learning opportunities. The routines of particular concern in the Orientation Program were those such as (1) the distribution of papers, books, supplies, and equipment; (2) how trainable children should move about the classroom; and (3) how the trainable children were to move about the school. Special Education Supervisors then demonstrated how the trainable classroom could be utilized as an Interest Center. They demonstrated to the Teacher Interns how to properly display visual, concrete materials and models re the learning unit being studied; how to utilize a part of the classroom as a personal appearance center involving aspects of good grooming and cleanliness; and how to utilize the classroom as a Science Center, a Music Center, a Games Center, and a Class Pet Center. The closing orientation activities centered on what the Trainable Mentally Retarded Staffing Project hoped to demonstrate or accomplish with respect to curriculum, program, special education costs, parental participation, and cooperative interrelations with Federal, State, and local agencies dealing with trainable children in one way or another.

THE INSTRUCTIONAL PROGRAM FOR TRAINABLE MENTALLY RETARDED CHILDREN

The instructional programs for trainable mentally retarded children in both the experimental and control schools were directed towards the same educational goals and objectives. This was in accordance with the research design which sought to test the effects of differences in staffing arrangements rather than differences in programmatic elements. The instructional program, therefore, was directed towards helping each child to fully develop his potential for learning in numerous, specific educational activities. The program had as its focal point the effort to train each child to become a self-reliant, contributing person in today's modern society.

Specifically, the basic purposes of the instructional program for the trainable mentally retarded were as follows:

1. To assist each child to learn those health concepts which would contribute most to his physical development;
2. To help each child to meaningfully participate in home, school, and community activities;
3. To help each child learn those protective skills which will enable him to operate effectively in today's society;
4. To help each child to learn number skills to the extent that he is able;

5. To help each child learn those language arts skills to the extent that he is able;
6. To assist each child to become self-reliant;
7. To help each child to become socially acceptable;
8. To help each child make wise use of his leisure times; and
9. To help each child to develop fully his potential for employment.

Staff in both the experimental and control schools followed these general principles as guides in the development of the instructional programs:

1. To know each child intimately;
2. To be alert to all learning readiness signs;
3. To record each child's spontaneous activities on appropriate forms for clues to that child's stage of development;
4. To provide for repetitive learning exercise until the child learns the required skill;
5. To provide consistent learning routines and adhere to them as much as possible; and
6. To utilize words not as abstractions but always in conjunction with concrete objects and actual experience.

The staffs involved in the Project followed principles grounded not only in excellent learning theory but also in practical teaching methods. For example, to know each child intimately is an absolute necessity if learning is to take place effectively and efficiently. To know each child intimately refers to the fact that the teacher of the trainable child must have a thorough knowledge of the mental, emotional, social, and physical state of each child if the teacher is to efficiently guide the trainable mentally retarded child in the learning process. Typically, the trainable child lacks organizational skills and is more often than not erratic in self-organization.

He may possess adequate skills in one learning area and be almost totally deficient in another. Because one of the objectives of the Trainable Mentally Retarded Project is to assist in the development of balanced personalities, learning experiences must be organized in ways to exploit the strengths possessed by the trainable child while overcoming his weaknesses.

Consider next the learning principle concerned with repetition and reinforcement of learning skills. Whereas the normal child learns a particular skill rather quickly and involving few repetitive exercises, the trainable child acquires a particular skill very slowly and most often only after many repetitions and reinforcements. Learning progresses slowly and at such a slow pace as to be almost imperceptible.

Learning exercises involving repetition and reinforcement must of necessity be pleasurable and as varied as possible. The teacher, therefore, must display an outward attitude which manifests reassurance and recognition. This is because the trainable child too often has a long history of failure in classroom learning situations. Learning exercises, therefore, should be of short duration, scattered over frequent intervals. The classroom teacher should be endowed with unusual perceptive skill for making instructional materials and learning techniques interesting, attractive, and stimulating. Moreover, the teacher must learn to use a vocabulary and sentence structure in the classroom geared to the trainable child's level of understanding.

Instructional Program Content

The daily instructional program for the trainable mentally retarded had a two-fold purpose: (1) the instructional program was structured and ordered in such a way as to serve as a training device for the trainable child; and (2) learning activities associated with the instructional program were to provide means for the emotional, social, intellectual, and physical development of the trainable child.

Prior to the classroom teacher determining the structure of the daily learning program, she had to take into consideration the following factors about her trainable children: (1) chronological ages; (2) mental ages; (3) socio-economic status; (4) attention spans; (5) energy levels; and (6) specific learning strengths and weaknesses of each child.

A typical school day for the trainable mentally retarded would be as follows as indicated in Table 3.1.

Table 3.1

Typical School Day for Children in the Trainable Mentally Retarded Project, Baltimore City Public Schools, School #307

School Day for Least Mature Trainable Children		School Day for Most Mature Trainable Children	
Time	Activities	Time	Activities
8:45-9:00	PRE-SCHOOL ACTIVITIES	8:45-9:00	PRE-SCHOOL ACTIVITIES
9:00-9:15	OPENING	9:00-9:10	OPENING - ORIENTATION
9:15-9:45	COMMUNICATION SKILLS	*9:10-10:00	FIRST PERIOD
9:45-10:15	MUSIC	*10:00-10:50	SECOND PERIOD
10:15-10:45	PRE-VOCATIONAL SKILLS	*10:50-11:40	THIRD PERIOD
10:45-11:10	PREPARE FOR LUNCH	11:40-11:50	PREPARE FOR LUNCH
11:10-11:40	LUNCH	11:50-12:20	LUNCH
11:40-12:25	RECREATIONAL AND REST ACTIVITIES	12:20-12:50	NUMBERS
12:25-12:55	NUMBERS	12:50-1:20	PHYSICAL EDUCATION
12:55-1:15	PHYSICAL EDUCATION	1:20-1:50	MUSIC
1:15-1:45	SOCIAL LIVING	1:50-2:00	PREPARATION - DISMISSAL
1:45-2:00	DISMISSAL		

*Children left homeroom classes and moved to other teachers where Communication Skills, Arts and Crafts, Social Living, and Home Economics were taught. After lunch these children returned to their homeroom classes. The homeroom teacher taught Numbers and Music.

CHAPTER 4

EVALUATION OF THE TRAINABLE MENTALLY RETARDED PROJECT

Chapter 3 dealt with the implementation and operations phases of the Trainable Mentally Retarded Project. Chaper 4 deals with the evaluation of the project in terms of its stated management and performance objectives.

EVALUATION OF THE MANAGEMENT OBJECTIVES FOR THE TRAINABLE MENTALLY RETARDED PROJECT

The operational plan for the project involved a number of specific management objectives. These objectives were enumerated in detail in Chapter 3. A restatement of each management objective and its evaluation follows.

MANAGEMENT OBJECTIVE #1. TO PROVIDE NINE CLASSROOMS FOR TRAINABLE MENTALLY RETARDED PROJECT STUDENTS.

The Claremont School #307 was selected by the Trainable Mentally Retarded Project personnel. Nine classrooms were provided in School #307 for each of the three years covered by this project. Management Objective #1 was therefore achieved.

MANAGEMENT OBJECTIVE #2. TO ENSURE THAT EACH CLASS OF TRAINABLE MENTALLY RETARDED CHILDREN IN BOTH THE CONTROL AND EXPERIMENTAL SCHOOLS CONTAINED AT THE OUTSET OF EACH SCHOOL YEAR AT LEAST TEN TRAINABLE MENTALLY RETARDED STUDENTS.

Table 4.1 contains net roll data on trainable pupils enrolled in Schools #307 and #308. Data on average daily membership (ADM) and on average daily attendance (ADA) are indicated class by class in each of the two schools for the three years of the project (1968-69, 1969-70, and 1970-71). Both control and experimental schools had 10 sections each (or classes) of trainable mentally retarded students. In the experimental School #307 in only three instances did the yearly average daily membership fall below ten students. In the control School #308, in only eight instances did the yearly average daily membership fall below ten students. On the other end of the scale, classes did not exceed the desired figure of ten students per class since the highest ADM figure for School #307 was 11.0 and for School #308 was 13.0 in Grade/Section 70-06 for FY 1970-71.

Table 4.1 contains data which indicates that Management Objective #2 was clearly achieved.

Interestingly, the average daily attendance for each class for each year was also computed and appears in Table 4.1. For the entire ten classes in School #307 the ADA for FY 1968-69 was 84%; for FY 1969-70, 81% and for FY 1970-71, 92%. With respect to the control School #308, the ADA for FY 1968-69 was 85%; for FY 1969-70, 83%; and FY 1970-71, 85%. Whereas attendance remained relatively constant in the Control School #308 at around the 85% level, at the experimental School #307 attendance climbed from the low 80's to 92%.

Table 4.1

Average Daily Membership and Average Daily Attendance Data by Class, by School, By Selected Years for Trainable Mentally Retarded Project Students

Grade/Sec.	FY 1968-69		FY 1969-70		FY 1970-71	
	ADM	ADA	ADM	ADA	ADM	ADA
	For School #307 (Experimental)					
70 - 01	10.0	89%	10.0	90%	10.0	96%
70 - 02	10.0	71	10.0	89	10.0	99
70 - 03	10.0	99	11.0	88	9.1	88
70 - 04	10.0	85	10.0	83	11.0	98
70 - 05	10.0	85	10.0	82	10.0	78
70 - 06	10.0	73	10.0	91	10.0	85
70 - 07	10.0	71	10.0	63	8.0	100
70 - 08	10.0	91	10.0	60	10.0	96
70 - 09	10.0	96	10.0	86	10.0	77
70 - 10	10.0	81	9.8	87	11.0	93
	For School #308 (Control)					
70 - 01	9.0	89	10.0	85	11.0	75
70 - 02	10.0	89	10.0	75	9.2	90
70 - 03	10.0	94	10.0	85	10.0	90
70 - 04	10.0	80	11.0	83	11.0	93
70 - 05	10.0	82	11.0	75	11.0	84
70 - 06	11.0	90	11.0	96	13.0	88
70 - 07	11.0	74	11.0	77	11.0	82
70 - 08	10.0	87	9.0	86	9.0	95
70 - 09	10.0	83	8.0	87	8.0	88
70 - 10	10.0	88	8.1	84	9.0	69

Note: ADM means average daily membership and ADA means average daily attendance; the number 70 for grade is merely a computer code for trainable mentally retarded students.

MANAGEMENT OBJECTIVE #3. TO ENSURE THAT EACH EXPERIMENTAL CLASS OF TRAINABLE MENTALLY RETARDED STUDENTS HAD A CLASSROOM TEACHER INTERN.

Management Objective #3 applies only to the experimental School #307. Table 4.2 contains a list for School #307 of the ten trainable mentally retarded classes and the teacher interns who taught them for each of the three years during which this project was in operation. Table 4.3 contains a list of the classroom teachers who taught the trainable mentally retarded students in the control School #308. Data contained in these tables make it possible to examine classroom teacher turnover rates for the control and experimental schools.

For the experimental School #307, only one class (70 - 10) had the same teacher for the entire FY 1968-69. However, for the FY 1969-70, teacher intern turnover was reduced drastically since all classes had the same Teacher Interns except class 70 - 01. For FY 1970-71, teacher intern turnover increased. Seven classes had the same Teacher Interns for the entire FY 1970-71 but class 70 - 06 had three different persons, class 70 - 07 had four different persons, and class 70 - 08 two different persons with one having been the Teacher Intern for 9 out of the 10 possible teaching months. Another way of looking at teacher intern turnover is to note the number of different persons who occupied Teacher Intern positions on a permanently employed basis. For FY 1968-69, there were 18 different persons; for FY 1969-70, there were 11; and for FY 1970-71, there were 14 different persons. Only 4 Teacher Interns remained in the experimental School #307 over the entire life of the Trainable Mentally Retarded Project.

Table 4.2

List of Trainable Mentally Retarded Classes
by Year for Experimental School #307
Showing Teacher Interns

Grade/ Sec.	FY 1968-69		FY 1969-70		FY 1970-71	
	Last Name	Months Employed	Last Name	Months Employed	Last Name	Months Employed
70-01	Stubbs Vacancy McCarty	2 1 7	Davidson Pinkard	1 9	Pinkard	10
70-02	Vacancy Chambers	2 8	Chambers	10	Cobb	10
70-03	McDonald Talley	6 4	Talley	10	Talley	10
70-04	Moody Scarborough	6 4	Scarborough	10	Scarborough	10
70-05	Adler Posner	6 4	Davidson	10	Howard	10
70-06	Collins Lewis	6 6	Lewis	10	Creigler Vacancy Brengle	3 1 6
70-07	Hartley Graves	6 4	Graves	10	Silver Ford Sweeley Vacancy	1 1 2 6
70-08	Hardy Creigler	6 4	Adler	10	Ford Silver	1 9
70-09	Bond Starvis	6 4	Starvis	10	Starvis	10
70-10	Anderson	10	Creigler	10	Leverette	10

Note:
Vacancy doesn't mean that the classroom section was not covered by an adult. It merely indicates that the adult was only temporarily filling the position until a permanent replacement was hired.

Table 4.3

List of Trainable Mentally Retarded Classes by Year for the Control School #308 Showing Classroom Teachers

Grade/ Sec.	FY 1968-69 Last Name	FY 1968-69 Months Employed	FY 1969-70 Last Name	FY 1969-70 Months Employed	FY 1970-71 Last Name	FY 1970-71 Months Employed
70-01	Vacancy Kearse	1 9	Brooks	10	Brooks	10
70-02	Bassett	10	McKain Kirkley	6 4	Fullwood	10
70-03	Block	10	Block	10	Robinson	10
70-04	Shriver Vacancy Simon	2 1 7	Fullwood Lewis	1 9	Myers	10
70-05	Willoughby Murray	6 4	Murray	10	Lewis	10
70-06	Gaskins	10	Kirkley McKain	4 6	Block	10
70-07	Marketti	10	Elron	10	Murray	10
70-08	Burguess Hardy	6 4	Lewis Fullwood	1 9	Seymour	10
70-09	Kavanagh Brooks	6 4	Bassett Robinson	3 7	Snyder	10
70-10	Murray Collins	6 4	Collins	10	Collins	10

Note: Vacancy doesn't mean that the classroom section was not covered by an adult. It merely indicates that the adult was only temporarily filling the position until a permanent replacement was hired.

The primary reason for such a high turnover was that the Maryland State Department of Education required all special education teachers to have a minimum of 60 college credits if full state aid for handicapped children was to be obtained by Baltimore City. Each year the Area Superintendent for Special Education had to obtain special permission for persons with less than 60 college credits to teach in the Project. This created many uncertainties in the minds of the Teacher Interns. Many elected to return to college to complete 60 college credits so that they would be assured of a permanent position in special education. Others sought teacher jobs elsewhere since the Trainable Mentally Retarded Project was to terminate on June 30, 1971.

To evaluate Teacher Turnover rates accurately, data were provided on teachers for the Control School #308. Table 4.3 contains these data. For the FY 1968-69 school year, 15 different persons taught the 10 trainable classes; 15 different persons also taught the 10 trainable classes in FY 1969-70; whereas the same 10 persons taught the 10 trainable classes in FY 1970-71. As was the situation with respect to the experimental School #307, the Control School #308 had only 4 persons who taught over the life of the Trainable Mentally Retarded Staff Deployment Project.

Some of the reasons given for leaving the Project were: (1) marriage; (2) moving from the community; (3) return to college to study in order to earn full State certification for teaching trainable students; (4) increasing home responsibilities; and (5) pregnancy.

The rate of teacher turnover was extremely high. However, it should be remembered that one of the main purposes of the Project was to evaluate a staffing pattern and inservice training program to see if the negative effects of teacher turnover could be ameliorated. Thus, the Project was designed to evaluate a total staffing pattern rather than the relative teaching abilities of a few selected individuals.

MANAGEMENT OBJECTIVE #4. TO PROVIDE ONE SENIOR TEACHER (MASTER TEACHER) FOR EACH GROUP OF THREE CLASSROOM INTERNS FOR ON THE JOB SUPERVISION AND TRAINING IN SCHOOL #307.

The Trainable Mentally Retarded Project budgeted funds for three Master Teachers for the latter half of the FY 1968-69 ($14,350), for three full time Master Teachers for the FY 1969-70 ($28,500), and the same number for FY 1970-71 ($29,100). Actual expenditures for the salaries were made for the Senior Teachers (Master Teachers) employed. Therefore, Management Objective #4 was attained.

MANAGEMENT OBJECTIVE #5. TO PROVIDE AN INSTRUCTIONAL DAY FOR EACH CLASS OF TRAINABLE MENTALLY RETARDED CHILDREN FROM 9:00 A.M. TO 2:00 P.M. IN THE EXPERIMENTAL SCHOOL #307.

Table 3.1 depicted a typical day for the trainable mentally child in School #307. The school day was divided into broad learning activities. Table 4.4 also depicts the

TABLE 4.4

TYPICAL WEEKLY SCHEDULE OF LEARNING ACTIVITIES FOR TRAINABLE MENTALLY RETARDED STUDENTS IN SCHOOL #307

Time Allotment	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
8:45 A.M. - 9:00 A.M.	Pre-School Activities	Pre-School Activities	Pre-School Activities	Pre-School Activities	Pre-School Activities
9:00 A.M. - 9:15 A.M.	Opening Exercises	Opening Exercises	Opening Exercises	Opening Exercises	Opening Exercises
9:15 A.M. - 9:45 A.M.	Communications Skills Activities	Communications Skills Activities	Communications Skills Activities	Communications Skills Activities	Communications Skills Activities
9:45 A.M. - 10:15 A.M.	Music Activities	Music Activities	Music Activities	Music Activities	Music Activities
10:15 A.M. - 10:45 A.M.	Pre-Vocational Skills Activities	Pre-Vocational Skills Activities	Pre-Vocational Skills Activities	Pre-Vocational Skills Activities	Pre-Vocational Skills Activities
10:45 A.M. - 11:10 A.M.	Preparation For Lunch Activities	Preparation For Lunch Activities	Preparation For Lunch Activities	Preparation For Lunch Activities	Preparation For Lunch Activities

TABLE 4.4 (CONT'D)

TYPICAL WEEKLY SCHEDULE OF LEARNING ACTIVITIES FOR TRAINABLE MENTALLY RETARDED STUDENTS IN SCHOOL #307

Time Allot-ment	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
11:10 A.M. - 11:40 A.M.	Lunch Activities	Lunch Activities	Lunch Activities	Lunch Activities	Lunch Activities
11:40 A.M. - 12:25 P.M.	Recreational and Rest Activities	Recreational and Rest Activities	Recreational and Rest Activities	Recreational and Rest Activities	Recreational and Rest Activities
12:25 P.M. - 12:55 P.M.	Number Facility Activities	Number Facility Activities	Number Facility Activities	Number Facility Activities	Number Facility Activities
12:55 P.M. - 1:15 P.M.	Physical Education Activities	Physical Education Activities	Physical Education Activities	Physical Education Activities	Physical Education Activities
1:15 P.M. - 1:45 P.M.	Social Living Activities	Social Living Activities	Social Living Activities	Social Living Activities	Social Living Activities
1:45 P.M. - 2:00 P.M.	Dismissal Activities	Dismissal Activities	Dismissal Activities	Dismissal Activities	Dismissal Activities

school day for the trainable mentally retarded student but in terms of a daily schedule covering a typical week's learning activities. This schedule indicates that students started their school day at 8:45 a.m. and ended it at 2:00 p.m.

The Teacher Intern and the Senior Teacher, of course, had to take into consideration (1) the chronological ages of the children in the class; (2) their mental ages; (3) their attention spans; and (4) their energy outputs before determining the order of the learning activities in the daily schedule. This helped determine the weekly learning schedule and ultimately the entire learning program. Because of the nature of trainable children, learning activities should be routinized, that is, occur as nearly as possible at the same time and in the same ordered sequence. Thus, the daily schedule in reality became the weekly, monthly and yearly schedules. However, there were times when the trainable children arrived at school in a highly agitated, excited state. When this occured, it was more important to have the trainable children participate in activities which made for a quiet environment. Such activities would have a calming influence and served to lead the trainable children to concentrate quietly on their learning tasks. To immediately have plunged the trainable children into overt action activities would have hindered rather than helped them learn. It is for this reason that trainable teachers must learn to know when they should deviate from their daily learning schedules. Moreover, it is extremely beneficial to trainable children psychologically, emotionally, and educationally to have their daily schedule contain activities which represent a proper balance between periods of relatively calm and quiet learning and periods of relatively overt, physical activities. The Teacher Interns were guided by the Master Teachers in this respect so that the best arrangement of daily activities could be determined and then maintained insofar as was humanly possible. Because the learning guides for health, recreation, home arts, music, arithmetic, and pre-vocational skills contain specific learning tasks and activities, no attempt will be made to discuss in detail under this management objective specific learning activities in the areas just enumerated. Clearly, in light of the daily and weekly schedules listed and in light of actual classroom visitations, Management Objective #5 was attained since an instructional day for each class of trainable children lasting from 9:00 a.m. to 2:00 p.m. in the experimental schools was provided.

MANAGEMENT OBJECTIVE #6. TO PROVIDE EACH TRAINABLE MENTALLY RETARDED CHILD IN THE TRAINABLE MENTALLY RETARDED PROJECT WITH A FREE, WHOLESOME LUNCH EACH DAY OVER THE THREE YEARS OF THE PROJECT.

As indicated in Chapter 1, the Trainable Mentally Retarded Project began operations in August, 1968 and lasted until June 30, 1971. The budget for FY 1968-69 provided $16,000 for Food Services. Of this amount, $1500 was for the transportation of food. The remaining amount $14,500, was for 115 lunches per day at $0.65 per lunch. The budget for FY 1969-70 provided $16,000 for Food Services. Of this amount, $1200 was for the transportation of food. The $14,800 remaining was for 115 lunches per day at $0.70 per lunch. Thus, the FY 1969-70 budget provided for 21,142 lunches which was sufficient to cover the ten months or 184 days of the Project's operation in FY 1969-70.

In FY 1970-71, the Project was scheduled to operate the full ten months of the school year. The budget for FY 1970-71 provided $16,000 for Food Services. For transportation of food, $1200 was budgeted. The $14,800 remaining was for hot lunches for the trainable mentally retarded children. This amount was sufficient for 21,142 lunches at $0.70 per lunch. Thus, the FY 1970-71 budget provided sufficient funds for hot lunches for the trainable children in the Project.

With respect to Management Objective #6, the approved budgets for the Trainable Mentally Retarded Project contained sufficient funds to provide each child in the Project with a free, wholesome lunch. Moreover, expenditure reports filed with the Maryland State Department of Education indicated that for the three years covered by the Project $13,462 was expended for 20,710 hot lunches in FY 1968-69; $14,812 was expended for 21,160 hot lunches in FY 1969-70, and that $14,819 was expended for 21,170 hot lunches in 1970-71. Therefore, Management Objective #6 was definitely attained.

MANAGEMENT OBJECTIVE #7. TO PROVIDE A LUNCH PERIOD IN WHICH EATING SKILLS AND NUTRITIONAL KNOWLEDGE COULD BE TAUGHT TO THE TRAINABLE MENTALLY RETARDED CHILDREN.

Table 4.4 contained a schedule of learning activities for trainable mentally retarded children in the Project. These learning activities were shown on a daily basis over a typical week. This table 4.4 showed that a lunch period usually was from 11:10 a.m. to 11:40 a.m. for one group and 11:50 a.m. to 12:20 p.m. for the other students. Though this proved that a lunch period was provided, it still remains to be proved that eating skills and nutritional knowledge was taught to the trainable mentally retarded children.

MANAGEMENT OBJECTIVE #8. TO PROVIDE TIME FOR TEACHER INTERNS IN THE TRAINABLE MENTALLY RETARDED PROJECT TO PARTICIPATE IN THE PROJECT'S INSERVICE TRAINING PROGRAM.

MANAGEMENT OBJECTIVE #9. TO ESTABLISH AN INSERVICE TRAINING PROGRAM FOR TEACHER INTERNS EMPLOYED IN THE TRAINABLE MENTALLY RETARDED PROJECT.

Because Management Objectives #8 and #9 are interrelated, they are discussed together rather than separately. As indicated in Table 4.4, the instructional day for trainable mentally retarded students in the experimental school ended at 2:00 p.m. Thus, Teacher Interns in the Project were free of instructional duties after 2:00 p.m. The teaching day for staff members in the control school ended at 2:30 p.m.

After the dismissal of trainable children, each Senior Teacher in the experimental school only would meet with those Classroom Teacher Interns for which the Senior Teacher was responsible for approximately one hour per day. Each teaching group met to discuss the activities and experiences their trainable children had been exposed to that day. This basic routine seldom varied. Each classroom Teacher Intern discussed how her pupils reacted to various learning activities, how much learning growth occurred in the students, and an evaluation of the instructional materials and equipment used that day. Each team evaluated the appropriateness of that day's learning activities. The team then planned the kinds of learning activities which would promote pupil growth--physically, emotionally, and intellectually. The team then planned cooperatively the next day's learning activities. These were incorporated into that day's lesson plans. What each Senior Teacher would be responsible for was noted in each Senior Teacher's lesson plans. What each Teacher Intern would be responsible for was noted in each Teacher Intern's lesson plans. Also noted in the lesson plans were the teaching materials and equipment that should be used for each learning activity.

Sometimes the Senior Teachers felt that all Teacher Interns needed a certain teaching experience. On these occasions, the Senior Teacher and the Teacher Interns met as a group and the Senior Teacher demonstrated to the Teacher Interns how a certain lesson was to be taught. In most instances, however, the Senior Teacher only met with those three or four Teacher Interns for whom she was responsible.

A typical daily inservice training hour in the Trainable Project went like this. Each Teacher Intern would discuss briefly her day's learning activities. The Senior Teacher and the Teacher Intern would evaluate the Teacher Intern's work for that day. The evaluation was expressly for the purpose of helping the Teacher Intern improve that particular lesson. Then both the Senior Teacher and Teacher Intern would cooperatively plan the following day's learning activities. Next the Teacher Intern wrote her lesson plans for the next day's learning activities with help as needed from the Senior Teacher. Oftentimes when a particular learning activity called for the use of certain audio-visual equipment, the Senior Teacher secured the equipment and demonstrated to the Teacher Interns how to properly use the equipment. Also, each Teacher Intern was trained to utilize the equipment properly. On occasion, a video tape player was used for the following purposes: (1) to demonstrate various teaching techniques; (2) to show Teacher Interns how they taught a lesson so that they could critique their own performance; (3) to reflect a progression of pupil learning experiences so that the Teacher Intern would learn which learning experiences were most appropriate for selected trainable children; and (4) to portray the classroom behavior of the trainable children in the classroom so that the Teacher Intern would learn to improve her ability as an observer of trainable children's behavior.

The Inservice Training Program for Teacher Interns also covered some general discussions of topics of general interest to all. For example, sessions were held on how to record properly information on the pupil's anecdotal record. The resource teachers in speech, music, physical education and home arts continuously met with the Teacher Interns concerning their areas of specialization. When a particular lesson was to be taught in one of these areas of specialization that resource person demonstrated how to properly teach and critique that lesson.

The discussion of the day's instructional activities and the cooperative planning for the next day's instructional program served as an excellent inservice training program for the Classroom Teacher Interns. They learned to plan appropriate instructional activities for trainable children, to evaluate the effectiveness of each learning activity, to share ideas with their fellow Teacher Interns, to assess realistically the strengths or weaknesses of their trainable children, to consider the effectiveness of the various instructional materials and equipment used for particular learning activities, and to organize learning experiences sequentially for trainable mentally retarded students. Because these cooperative planning and evaluative sessions came immediately at the close of the pupil instructional day (2:00 p.m.), the events that occurred in each Teacher

Intern's classroom were still fresh in that Teacher Intern's mind which made for more effective planning and evaluation than if such sessions were held weekly or monthly.

Because all Teacher Interns had less than a college degree and very little training specifically in trainable mentally retarded educational programs, the Project provided for both a preservice (orientation) program and an inservice training program. The preservice or orientation program is discussed thoroughly in the management objective which deals explicitly and specifically with this aspect of the trainable mentally retarded project. Not only did the Teacher Interns lack a college degree but in most instances, the majority of the Teacher Interns had less than twenty-five college credits. Table 4.5 contains data on the educational levels of the Teacher Interns.

Table 4.5

Educational Level of Teacher Interns in the Trainable Mentally Retarded Project, School #307

Educational Status Number of College Credits	Fiscal Years 1968-69	1969-70	1970-71
1. Zero to Ten	5	6	4
2. Eleven to Twenty	1	1	2
3. Twenty-one to Thirty	0	1	0
4. Twenty-one to Forty	1	0	0
5. Forty-one to Fifty	1	1	0
6. Fifty-one to Sixty	1	1	2
7. Sixty-one to Seventy	0	0	1
8. Seventy-one to Eighty	0	0	1
9. Eighty-one to Ninety	0	0	0
10. Ninety-one and over	1	0	0
Total	10	10	10

Note: All college credits are on a semester basis.

As indicated earlier, the regular after school day evaluative and cooperative planning sessions were integral parts of the inservice program. That this should be is self-evident since the Classroom Teacher Interns did not possess the necessary education and qualifications to be certificated teachers of the trainable mentally retarded.

Typically, after the evaluative and cooperative planning sessions were held, time was made available for other inservice program activities. For example, on Mondays a Speech Therapist would demonstrate and discuss the kinds of communications experiences that the Teacher Interns should utilize to improve the communication skills of the trainable mentally retarded. An important outgrowth of this part of the inservice training program was the development of a teaching guide on speech improvement activities for the trainable mentally retarded. This guide is discussed in detail under its appropriate performance objective.

On Tuesdays, an Art Specialist would demonstrate the kinds of learning experiences that the Teacher Interns should utilize to improve arts and crafts skills of the trainable mentally retarded. An important outgrowth of this part of the inservice training program was the guide on arts and crafts activities for the trainable mentally retarded. This guide is discussed in detail under its appropriate performance objective.

On Wednesdays a Physical Education Teacher would organize, present, demonstrate, and discuss the kinds of physical education learning experiences that the Teacher Interns should utilize to improve the physical education skills of the trainable mentally retarded. An important outgrowth of this part of the inservice program was the development of a teaching guide on physical education activities for the trainable mentally retarded. This guide is discussed in detail under its appropriate performance objective.

On Thursdays, the Parent Liaison Worker discussed with the Project staff the home environment of the children enrolled in the Project. The major purpose of these sessions was to get the Teacher Interns to learn as much as possible about their students and the families of these students. Through such knowledge, the Teacher Interns and the Parent Liaison Worker had opportunities to express their concerns about the learning growth of each student. The Parent Liaison Worker could share the concerns parents had for their own trainable mentally retarded child. The Teacher Interns were in a position to provide the Parent Liaison Worker with answers to the concerned questions raised by the parents. The Parent Liaison Worker could then communicate these answers to the concerned parents when next they met. Both the experimental School #307 and the control School #308 had Parent Liaison Workers. The Parent Liaison Worker's Job Description called for this person to work directly with the parents of the trainable mentally retarded. The Parent Liaison Worker was to serve as the liaison person between the school and the home, particularly in matters involving the trainable child's adjustment to school. The Parent Liaison Worker's Job Description also called for the following duties:

The Parent Liaison Worker was

1. To visit the homes of pupils to discuss the school's trainable programs and the role which the parents could play in this program;
2. To answer questions which the parents had regarding the school program or to get such answers from the school in those instances when the worker didn't know the answers;
3. To share with Project personnel questions and concerns which parents had about the school and its program;
4. To investigate the reasons for irregular attendance on the part of the trainable child;
5. To assist in gathering information about the home which might assist teachers to understand better individual pupil behavior;
6. To facilitate in whatever way possible the trainable pupil's adjustment to school and to learning; and
7. To share with parents concerns that school personnel had regarding the trainable child's personal hygiene and to suggest means for improvement where warranted.

Interestingly, a questionnaire entitled "Parent Questionnaire for Staffing Patterns Project" was sent home to the parents of the trainable children. The results of this questionnaire are indicated in Table 4.6. What is surprising is the small number of responses in both the experimental and control schools. Only about 20 percent of the eligible parents who could have responded to the questionnaire did so. This lack of response certainly reflects on the effectiveness of the Parent Liaison Workers. These Workers made little effort to increase the parental response rate. This is evident from the responses to Question #5 in Table 4.6. Question #5 asked of parents "Did you at any time have a visit or conference with the parent liaison worker from your child's school?" In the experimental School #307, 15 out of the 20 parents who responded stated No; in the control School #308, 17 out of the 21 responses indicated No. On the surface the Parent Liaison Workers seemed not to have done thoroughly those items on their job description which dealt with the homes of trainable children.

Of those parents who did respond to the parental questionnaire, the overwhelming majority felt that their children enjoyed school (Question #1) and that their children were learning useful things at school (Question #2). Moreover, these same parents indicated that they had within the past three years visited their child's classroom (Question #3) and that they did have at least one conference with their child's teacher within the past three years (Question #4). Of the parents who responded to Question #6,

Table 4.6

"Parent Questionnaire for Staffing Patterns Project,"
Trainable Mentally Retarded Project,
Baltimore City Public Schools, FY 1970-71

Question	Experimental School #307		Control School #308	
	Yes	No	Yes	No
1. Do you think your child enjoyed going to school?	19	1	20	1
2. Do you feel that your child was learning useful things at school?	17	3	20	0
3. Did you at any time in the past three years visit your child's classroom?	13	7	19	2
4. Did you at any time in the past three years have a conference with his teachers?	15	5	18	3
5. Did you at any time have a visit or conference with the parent liaison worker from your child's school?	5	15	4	17
6. Did anyone from the school staff discuss with you ways in which you could help your child continue to learn at home?	13	7	16	5
7. Are you a member of the Parent Association at School #307? (at School #308?)	4	16	3	18
8. Has anyone from the school explained the special project in which your child was included to you?	5	15	5	16
9. In my judgment the program provided by the teachers of my child over the past three years was equal to that previously provided to him.	17	3	16	1

the majority indicated that they had had conferences with school staff regarding ways that the parent could help his child continue to learn at home. Apparently, the parents of trainable children are not prone to join school Parent Teacher Association (Question #7) since the overwhelming number reported they did not belong to the Parent Teachers Association. This may be in part due to the fact that trainable schools are not neighborhood schools but enroll pupils from the entire city. Since many children live a considerable distance from the school they attend, their parents may feel little affinity for the school and therefore do not become members of that school's Parent Teachers Association. Another paradoxical note relates to the fact that the overwhelming majority of parents were not informed that their child was in a special project (Question #8). It would appear that this should have been the primary function that Parent Liaison Workers carried out. Apparently they did not. Question #9 was the final question asked parents and it indicated that the parents at both the experimental and control school felt that the educational program their child received over the past three years was equal to that previously provided.

Because so many parents of the trainable children in the Project had indicated that they had had no contact with the Parent Liaison Worker, the Principal of the experimental school requested that a second questionnaire be sent to the homes of the parents of the trainable children. The Principal indicated that perhaps the parents weren't aware that the person who visited them from school was a Parent Liaison Worker but only knew her by name. Therefore, a second questionnaire was mailed to the homes of the parents of the trainable children. Twenty-eight parents responded. Twenty-four of them indicated that they had had some contact with the Parent Liaison Worker. Since over the life of the Trainable Project some two hundred different families were involved the response rate was extremely low. The results of the survey indicate that out of almost 200 families, 28 parents responded. Of these parent respondents, 24 indicated that they had some contact with the Parent Liaison Worker and 4 did not. When asked what was the purpose of the Parent Liaison Worker's contact, the results were: (1) Medication, 4; (2) Attendance Problems, 9; (3) Behavior Problems, 14; (4) Need for Clothing, 2; (5) Cleanliness, 4; and (6) For Other Reasons, (eye glasses, illness, and parent club work), 3. Because some parents indicated multiple purposes the addition of these purposes, of course, totals more than 28 responses. If the Parent Liaison Program were to be judged by the reactions of the Teacher Interns, Senior Teachers, and many parents, the effectiveness of the Parent Liaison Worker left much to be desired. The fact that only about 12 percent of the total parents who could have responded to either of the two questionnaires regarding the Parent Liaison Worker leaves little room for regarding the Parent Liaison Program even a moderate success.

On Fridays, an Arithmetic Specialist would demonstrate the kinds of learning activities that the Teacher Interns should utilize to improve arithmetic skills in trainable children. The Arithmetic Specialist would demonstrate and discuss the kinds of arithmetic learning experiences that would be most appropriate for the trainable child. An important outgrowth of this phase of the inservice training program for Teacher Interns was the development of a guide on arithmetic activities for the trainable mentally retarded. This guide is discussed in detail under its appropriate performance objective.

With respect to Management Objectives #8 and #9, the preceding analysis indicates that the Inservice Program did take place and that it served a useful function. These two Management Objectives are considered, therefore, attained.

MANAGEMENT OBJECTIVE #10. TO PROVIDE THE TRAINABLE MENTALLY RETARDED CHILDREN IN THE EXPERIMENTAL SCHOOL #307 WITH APPROPRIATE INSTRUCTIONAL MATERIALS TO FACILITATE PUPIL LEARNING.

For the FY 1968-69, the Baltimore City Public Schools provided $1,050 for instructional materials; for FY 1969-70, $1,200 was provided; and for FY 1970-71 an amount equal to $1,570 was provided for instructional materials for the pupils in School #307. According to the responses received from the Teacher Questionnaire administered to Teacher Interns at School #307, 10 Teacher Interns indicated that the supplies and materials available to them were completely adequate, 7 indicated very adequate, 4 stated the supplies and materials were about average, and 3 Teacher Interns considered the supplies and materials available to them were definitely not adequate. On the basis of the funds made available to Teacher Interns for supplies and materials for their trainable children and on the basis of the Teacher Intern responses to the question asked them about the adequacy of instructional supplies and materials, Management Objective #10 was completely attained.

The Trainable Mentally Retarded Project had no Federal Funds budgeted for instructional materials. Funds for this purpose were to be obtained from local tax sources.

MANAGEMENT OBJECTIVE #11. TO PROVIDE WRITTEN PROCEDURES ON THE WAYS PARENTS OF THE TRAINABLE MENTALLY RETARDED CHILDREN IN SCHOOL #307 WERE TO BE INVOLVED IN THE PROJECT.

Despite the fact that funds were provided for both social work services and parent liaison services, no evidence was presented by the Social Workers and Parent Liaison Workers that written procedures were developed on ways that parents of trainable children in School #307 were to be involved in the Project. Consequently Management Objective #11 was not attained.

MANAGEMENT OBJECTIVE #12. TO UTILIZE RESOURCE PERSONS AS AN INTEGRAL PART OF THE TEACHER INTERN INSERVICE PROGRAM IN THE TRAINABLE MENTALLY RETARDED PROJECT IN THE EXPERIMENTAL SCHOOL #307.

The FY 1968-69 Trainable Mentally Retarded Project called for the following resource persons: one speech teacher; one home economics teacher; one industrial arts teacher; one physical education teacher; and one social worker. All of these positions were paid for from Federal Funds for one-half year since the Project in FY 1968-69 was not Federally funded until February 1, 1969. These services were paid for out of local funds for the first five months. The FY 1969-70 budget called for the same resource persons requested for FY 1968-69 except for a full rather than a half year. In addition, the FY 1969-70 budget contained $1,000 for consultants for staff development (i.e. professional development for Teacher Interns). The FY 1970-71 budget also called for Federal funding of only the following resource personnel: Home Economics Teacher (1/2 time), Physcial Education Teacher (full-time), and a Music Teacher (1/2 time).

The resource personnel requested in the Trainable Mentally Retarded Project were utilized as indicated in Management Objective #12. The evidence for this is the discussion centered upon Management Objective #9 which deals with the inservice training program for Teacher Interns. Table 4.7 contains data on resource personnel provided to the Project by man-years (full-time equivalents), by resource area, and by source of funding. The fact that these persons were actually employed and were so efficiently utilized in the Inservice Training Program

TABLE 4.7

RESOURCE PERSONS ASSIGNED TO TRAINABLE MENTALLY RETARD PROJECT BY AREA AND SOURCE OF FUNDS

Resource Area	FY 1968-69 F.T.E.	Source of Funds	FY 1969-70 F.T.E.	Source of Funds	FY 1970-71 F.T.E.	Source of Funds
1. Speech Therapy	0.5	Fed.	1.0	Fed.	1.0	Local
2. Home Economics	0.5	Fed.	1.0	Fed.	0.5	Fed.
3. Industrial Arts	0.5	Local	1.0	Fed.	1.0	Local
4. Physical Education	0.5	Local	1.0	Fed.	1.0	Fed.
5. Music	0	N.A.	0	N.A.	0.5	Fed.
6. Parent Liaison Work	0	N.A.	0	N.A.	1.0	Fed.
7. Social Work	0	N.A.	1.0	Fed.	0	N.A.

Note: Fed. means Federal Government, F.T.E. means full time equivalents, and N.A. means Not Applicable.

for the Trainable Project indicates that Management Objective #12 was attained.

MANAGEMENT OBJECTIVE #13. TO PROVIDE A CONTROL SCHOOL AND AN EXPERIMENTAL SCHOOL FOR THE TRAINABLE MENTALLY RETARDED PROJECT.

School #307 was designated by the Area Superintendent for Special Education as the experimental school and School #308 as the control school for the Trainable Mentally Retarded Project. These schools remained so designated from the start of the Project in August, 1968 until the end of the Project on June 30, 1971. Thus, Management Objective #13 was clearly attained.

MANAGEMENT OBJECTIVE #14. TO INITIATE AN ORIENTATION PROGRAM AND A PRESERVICE TRAINING PROGRAM FOR STAFF MEMBERS ASSOCIATED WITH THE TRAINABLE MENTALLY RETARDED PROJECT, PARTICULARLY FOR TEACHER INTERNS AND MASTER TEACHERS.

The Orientation Program or Preservice Training Program for staff personnel was held each summer for a one week period just prior to the opening of school in September. These Orientation Programs were discussed in some detail in Chapter 3 in the section entitled "The Orientation Program for Trainable Project Personnel." In fact, the activities covered on each day of the week that the Orientation Program operated were discussed in detail. Unfortunately, no data were collected with respect to the Orientation Program that would lead to an analysis of the effectiveness of the Program. Thus, while Management Objective #14 was attained, no data were available to evaluate how effective the Orientation Program was in orienting Teacher Interns and Senior Teachers for their jobs in the Trainable Mentally Retarded Staffing Project.

MANAGEMENT OBJECTIVE #15. TO PROVIDE SOCIAL WORK ASSISTANCE FOR THE TRAINABLE MENTALLY RETARDED PROJECT AS AND WHEN NEEDED.

The FY 1968-69 budget provided no funds for social work. However, the FY 1969-70 budget provided for the services of a social worker funded Federally. The FY 1970-71 provided Federal funds for a Parent Liaison Worker but not for a Social Worker.

The Trainable Mentally Retarded Project called for the Social Worker to work towards improving attitudes of the parents of trainable children towards pupil learning. In addition, the social worker was to encourage attendance of parents at Parent Teacher Association meetings, to solicit parental participation in selected school program activities, and to work towards increased parental support of the trainable mentally retarded project. Interestingly, as an inducement for parents to participate in the program $62 for bus fare was provided in FY 1968-69; $300 in FY 1969-70; and $300 in FY 1970-71. Because the Special Services Division was unable to secure the services of a qualified Social Worker, the requirement was changed to employ a Parent Liaison Worker rather than a School Social Worker. Management Objective #15 was attained in that funds were provided for these services but that a Parent Liaison Worker rather than a School Social Worker was employed. However, as indicated under Management Objective #9, the work of the Parent Liaison Worker left much to be desired.

MANAGEMENT OBJECTIVE #16. TO PROVIDE SPEECH THERAPY ASSISTANCE FOR STUDENTS ENROLLED IN SCHOOL #307'S TRAINABLE MENTALLY RETARDED PROJECT AND TO WORK TO IMPROVE THE SPEECH PATTERNS OF THOSE TRAINABLE STUDENTS WHO REQUIRED SUCH SERVICE.

Table 4.7 subsumed under the discussion on Management Objective #12 indicates that funds were available for speech therapist full-time over the life of the Trainable Mentally Retarded Project. The Federal Government financed 1.5 man-years of speech therapy assistance and 1.0 man-years were provided for by local funds.

Whereas much data was available to evaluate the work of the Parent Liaison Worker and no data were available at all to evaluate the work of the Social Worker, some data were available to evaluate the work of the Speech Therapists. Both Senior Teachers and Teacher Interns responded to a questionnaire which contained the statement "The speech therapy services were of considerable help to our program." These persons were to indicate the degree to which these services were or were not helpful. Of the six Senior Teacher respondents, four indicated that the speech therapy services were completely adequate, and two stated that the services were about average. Of the twenty-four Teacher

Intern respondents, eighteen indicated that the speech services were completely adequate, four very adequate, and two about average. On the basis of these responses, the speech services can be evaluated as more than adequate. Not only was Management Objective #16 attained but its quality of attainment is classed as definitely superior insofar as the Trainable Mentally Retarded Staffing Project is concerned.

> *MANAGEMENT OBJECTIVE #17. TO REDUCE PER PUPIL COSTS FOR EDUCATING TRAINABLE MENTALLY RETARDED CHILDREN THROUGH UTILIZATION OF TEAM TEACHING, EMPLOYING AN INNOVATIVE STAFF DEPLOYMENT PATTERN IN SCHOOL #307 RATHER THAN THROUGH UTILIZATION OF THE CONVENTIONAL SELF-CONTAINED CLASSROOM TEACHING APPROACH.*

This objective was stated both as a Management and as a Performance Objective. Although certain aspects deal with management and others with performance, it appears more logical not to separate the evaluation of per pupil expenditures in terms of its management and performance aspects. Consequently, per pupil costs comparisons between control School #308 and experimental School #307 will be discussed, analyzed, and evaluated under the following section dealing with the evaluation of performance objectives, and in specific Performance Objective #5.

SUMMARY OF ANALYSES
OF MANAGEMENT OBJECTIVES

Of the seventeen Management Objectives identified for the Trainable Mentally Retarded Project, one objective was not attained (#11); fourteen were attained in toto or mostly (#1, #2, #3, #4, #5, #6, #7, #8, #9, #10, #12, #13, #14, 15, #16); and one management objective (#17) dealing with reduction of costs was only partially achieved.

EVALUATION OF THE PERFORMANCE OBJECTIVES FOR THE TRAINABLE MENTALLY RETARDED PROJECT

The operational plan for the project involved a number of specific performance objectives. These objectives were enumerated in detail in Chapter 3. A restatement of each performance objective and its evaluation follows.

> *PERFORMANCE OBJECTIVE #1. THE ILLINOIS TEST OF PSYCHO-LINGUISTIC ABILITY WILL BE ADMINISTERED TO CONTROL AND EXPERIMENTAL TRAINABLE CHILDREN ON A PRE AND POST TESTS BASIS. THE OBJECTIVE TO BE ATTAINED IN THE TRAINABLE MENTALLY RETARDED PROJECT IS THAT THE STUDENTS IN THE EXPERIMENTAL SCHOOL WILL DO AS WELL OR BETTER THAN THE CONTROL STUDENTS ON THIS TEST.*

The Illinois Test of Psycho-Linguistic Ability (ITPA) consists of five separate parts entitled: (1) Auditory Reception; (2) Visual Reception; (3) Auditory Sequential Memory; (4) Visual Association; and (5) Manual Expression.

Description of
the Five Subtests
of ITPA

Auditory Reception (Auditory Decoding). This is a test to assess the ability of a child to derive meaning from verbally presented material. Since the receptive rather than the expressive process is being sampled, the response throughout is kept at the simple level of a "yes" or "no" or even a nod or shake of the head. The vocabulary becomes more and more difficult while the response remains at a two-year level. Similarly, the automatic function of determining meaning from syntax has been minimized by retaining only one sentence form. The test contains 50 short, direct questions printed in the Manual. Typical items are "Do dogs eat?" "Do dials yawn?" "Do carpenters kneel?" "Do wingless birds soar?"

Visual Reception (Visual Decoding). This test is comparable to the Auditory Reception Test but utilizes a different sense modality. It is a measure of the child's ability to gain meaning from visual symbols. In this test there are 40 picture items, each consisting of a stimulus picture on one page and four response pictures on a second page. The child is shown the stimulus picture for three seconds with the directions, "See this?" Then the page of response pictures is presented with the directions, "Find one here." The credited choice is the object or situation which is conceptually similar to the stimulus. The other choices include pictures with varying degrees of structural (rather than functional) similarity or pictures which are associated with the stimulus or with the acceptable choice.

Auditory Sequential Memory. This test assesses the child's ability to reproduce from memory sequences of digits increasing in length from two to eight digits. The test differs from the digit repetition task of the Stanford-Binet or the WISC in that the digits are presented at the rate of two per second instead of one per second and in that the child is allowed a second trial of each sequence if he fails on the first presentation. He receives more credit for success on the first than on the second trial. The more rapid presentation makes the task easier, which is necessary for students with relatively short memory spans.

Visual Sequential Memory. This test assesses the child's ability to reproduce sequences of nonmeaningful figures from memory. The child is shown each sequence of figures for five seconds and then is asked to put corresponding chips of figures in the same order. Here again the child is allowed two trials on each sequence when the first attempt is unsuccessful. The sequences increase in length from two to eight figures.

Manual Expression (Motor Encoding). This taps the child's ability to express ideas manually. This ability is assessed by a gestural manipulation test. In this test 15 pictures of common objects are shown to the child one at a time and he is asked to, "Show me what we do with a ______." The child is required to pantomime the appropriate action, such as dialing a telephone or playing a guitar. (Since this is not a test of decoding ability, both auditory and visual modalities are used in presenting the stimulus.)

The Auditory Reception Test

The Auditory Reception pre-test was administered in the fall (September) of the FY 1969-70. The scores ranged from 3 to 42 in School #307. The mean for School #307 was 18.9 and for School #308, 20.5. This mean difference was not statistically significant. See Table 4.8.

The Auditory Reception post-test was administered in the spring (May) of 1970. The scores ranged from 0 to 41 in School #308 and from 2 to 44 in School #307. The mean score for the experimental School #307 was 16.6 and for control School #308, 21.3. This difference between these means was not statistically significant at the .01 level of significance.

Table 4.8

Difference of Means Statistics on the Auditory Reception Part of the Illinois Test of Psycho-Linguistic Ability for Students in Experimental School #307 and Control School #308, Trainable Mentally Retarded Project, Data for 1969-70 School Year

Item	School #307			School #308			
	Mean	Std. Dev.	No. of Cases	Mean	Std. Dev.	No. of Cases	C.R.[a]
1. Pre-Test Auditory Reception	18.9	9.3	81	20.5	9.3	84	-1.11
2. Post-Test Auditory Reception	16.6	8.3	41	21.3	10.6	43	-2.27
3. Net Gain in Auditory Reception Test Scores[b]	2.3	6.7	36	-0.9	7.3	37	1.95

a. Refers to critical ratios between the means of Schools #307 and 308.

b. Refers to the number obtained when the child's pre-test score is subtracted from his post-test score. The resultant number could be positive or negative.

Net Gain Scores on the Auditory Reception test were computed as follows for each trainable child: the child's pre-test score was subtracted from his post-test score and the resulting difference was the child's Net Gain Score. Of course, the Net Gain Score could be negative as well as positive. The Net Gain Auditory Reception Scores indicated that the experimental School #307 had a mean gain of 2.3 and School #308, -0.9. The resulting mean difference was not statistically significant.

Visual
Test

The Visual Reception pre- and post-tests were administered at the same time as the Auditory Reception tests. In fact all of the various parts of the Illinois Tests of Psycho-Linguistic Ability were administered at the same time.

Pre-test scores for the Visual Reception test ranged from 4 to 30 in the experimental School #307 and in the control School #308 from 2 to 29. The mean score on this test was 16.6 in School #307 and 16.3 in School #308. The resulting mean difference was not statistically significant. See Table 4.9.

Post-test scores for the Visual Reception Test ranged from 2 to 36 in School #307 and from 0 to 29 in School #308. The mean scores for this test were 16.4 in School #307 and 15.0 in School #308. The resulting mean difference was not statistically significant.

Table 4.9

Difference of Means Statistics on the Visual Reception Part of the Illinois Test of Psycho-Linguistic Ability for Students In Experimental School #307 and Control School #308, Trainable Mentally Retarded Project, Data for 1969-70 School Year

Item	School #307			School #308			C.R.[a]
	Mean	Std. Dev.	No. of Cases	Mean	Std. Dev.	No. of Cases	
1. Pre-Test Visual Reception	16.6	6.3	81	16.3	6.7	84	0.30
2. Post-Test Visual Reception	16.4	8.1	42	15.0	6.6	43	0.69
3. Net Gain Scores[b] on Visual Reception Test	1.2	7.3	36	0.6	6.3	37	0.38

a. Refers to critical ratios between the means of Schools #307 and #308.

b. Refers to the number obtained when the child's pre-test score is subtracted from his post-test score. The resultant number could be positive or negative.

The Net Gain Scores for the Visual Reception Test were computed in the same manner as discussed under the Auditory Reception Test. The Net Gain Scores indicated that School #307 had a mean gain of 1.2 and School #308, 0.6. The resulting mean difference was not statistically significant.

The Auditory Sequential Memory Test

The pre-test scores for the Auditory Sequential Memory Test ranged from 2 to 37 in the experimental School #307 and from 4 to 52 in the control School #308. School #307 had a mean score of 14.1 and School #308, 18.5. The resulting mean difference of -3.33 was statistically significant at the .01 level of significance. See Table 4.10. Therefore, on the Auditory Sequential Memory Test control trainable students had significantly greater ability to reproduce from memory sequences of numbers increasing in length from two to eight digits.

On the post-test, the control students no longer possess such an advantage over the experimental school. For instance, although the control School #308 had a higher mean score on the Auditory Sequential Memory Test than the experimental School #307, (21.3 to 16.6), the mean difference was not statistically significant. Apparently the trainable students in the experimental school made sufficient gains on the Auditory Sequential Memory Test that the mean difference on the post-tests was not significant.

Table 4.10

Difference of Means Statistics on the Auditory Sequential Memory Part of the Illinois Test of Psycho-Linguistic Ability for Students in Experimental School #307 and Control School #308, Trainable Mentally Retarded Project, Data for 1969-70 School Year

Item	School #307			School #308			C.R.[a]
	Mean	Std. Dev.	No. of Cases	Mean	Std. Dev.	No. of Cases	
1. Pre-Test Auditory Sequential Memory	14.1	7.7	76	18.5	8.8	80	-3.33
2. Post-Test Auditory Sequential Memory	16.6	8.3	41	21.3	10.6	43	-2.27
3. Net Gain Scores on Auditory Sequential Memory Test[b]	3.1	4.6	34	2.8	5.7	36	0.24

a. Refers to critical ratios between the means of Schools #307 and #308.

b. Refers to the number obtained when the child's pre-test score is subtracted from his post-test score. The resultant number could be positive or negative.

With respect to Net Gain Scores on the Auditory Sequential Memory Test, trainable students in the experimental School #307 made a mean gain of 3.1 compared to 2.8 for those in the control School #308. The resulting mean difference was not significant at the .01 level of significance.

The Visual Sequential Memory Test

Scores on the pre-test Visual Sequential Memory Test in School #307 ranged from 5 to 30 and in School #308 from 0 to 30. School #307 had a mean score of 16.9 and School #308, 17.9. The resulting mean difference was not significant. See Table 4.11.

On the post-test, the scores on the Visual Sequential Memory Test in School #307 ranged from 1 to 31 and in School #308 from 0 to 24. School #307 had a mean score of 16.4 and School #308, 16.6. The resulting mean difference was not significant.

Net gains in the Visual Sequential Memory Test were not significant. School #307 had a mean net gain of 1.1 and School #308 had a mean net loss of -0.1. The resulting mean difference in the net gains made on the Visual Sequential Memory Test was not significant.

Table 4.11

Difference of Means Statistics on the Auditory Visual Sequential Memory Part of the Illinois Test of Psycho-Linguistic Ability for Students in Experimental School #307 and Control School #308, Trainable Mentally Retarded Project, Data for 1969-70 School Year

Item	School #307			School #308			
	Mean	Std. Dev.	No. of Cases	Mean	Std. Dev.	No. of Cases	C.R.[a]
1. Pre-Test Visual Sequential Memory Test	16.9	5.3	75	17.9	5.9	84	-1.13
2. Post-Test Visual Sequential Memory Test	16.4	6.7	42	16.6	6.1	43	-0.14
3. Net Gain Scores on Visual Sequential Memory Test[b]	1.1	5.0	31	-0.1	5.3	37	0.96

a. Refers to critical ratios between the means of Schools #307 and #308.

b. Refers to the number obtained when the child's pre-test score is subtracted from his post-test score. The resultant number could be positive or negative.

The Manual Expression Test

On the pre-test Manual Expression, trainable children in School #307 made scores which ranged from 8 to 36 whereas those in School #308 made scores ranging from 5 to 37. School #307 had a mean score of 20.9 and School #308, 23.7. However, the mean difference was significant at the .01 level of significance in favor of trainable control students. Thus, students in School #308 had significantly higher ability to demonstrate manually an idea expressed verbally. For example, a child is asked, "Show me what to do with a telephone." The trainable child must be able to pantomime the appropriate manual action such as dialing a telephone.

On the post-test Manual Expression, trainable students in School #307 had scores which ranged from 11 to 37 and in School #308 from 5 to 37. The mean score for School #307 was 22.7 and for School #308, 20.3. The resulting mean difference in the post-test means on the Manual Expression Test was not significant. See Table 4.12.

When Net Gain Scores on the Manual Expression Test scores were compared School #307 had a mean net gain of 1.7 and School #308 of -2.7. The resulting mean difference between the experimental and control schools was not significant at the .01 level but was at the .05 level of significance. Because of the relatively few number of students involved such a difference should not be given much importance.

Table 4.12

Difference of Means Statistics on the Manual Expression Part of the Illinois Test of Psycho-Linguistic Ability for Students in Experimental School #307 and Control School #308, Trainable Mentally Retarded Project, Data for 1969-70 School Year

Item	School #307			School #308			C.R.[a]
	Mean	Std. Dev.	No. of Cases	Mean	Std. Dev.	No. of Cases	
1. Pre-Test Manual Expression	20.9	5.1	81	23.7	6.4	83	-3.10
2. Post-Test Manual Expression	22.7	7.3	42	20.3	9.6	44	1.31
3. Net Gain Scores on Manual Expression Test[b]	1.7	5.4	35	-2.7	5.2	36	-2.17

a. Refers to critical ratios between the means of Schools #307 and #308.

b. Refers to the number obtained when the child's pre-test score is subtracted from his post-test score. The resultant number could be positive or negative.

Analysis of
ITPA Subtest

Performance Objective #1 dealt with the Illinois Test of Psycho-Linguistic Ability. The main purpose of this performance objective was to demonstrate that the staffing pattern employed in the experimental School #307 would not result in the trainable students enrolled in this school doing more poorly on the tests of Psycho-Linguistic Ability than trainables enrolled in School #308 who would be taught utilizing the self-contained classroom approach. In no instance, did either the control or experimental schools make net gains on the Illinois Tests of Psycho-Linguistic Ability that were significantly higher than the other. On two of the five pre-tests, the control school had significantly higher means (Auditory Memory and Manual Expression) than the experimental school. On only 1 out of the 5 post-tests, did the control school students have significantly higher means than the experimental school students (on the post-test Auditory Memory and that was at the .05 and not the .01 level of significance).

When the mean Net Gain Schores were compared, the control school trainable students did not have a single instance in which they made significantly greater mean net gains than the experimental school trainable students. However, in one out of five instances, the experimental students made significantly higher net gains (Manual Expression Test at .01 level of significance). The analysis of these test results indicates that the Staffing Pattern employed in School #307 did not disadvantage the trainable students enrolled. Therefore, Performance Objective #1 was realized.

> *PERFORMANCE OBJECTIVE #2. THE VINELAND SOCIAL MATURITY SCALE TEST WILL BE ADMINISTERED TO TRAINABLE STUDENTS IN EXPERIMENTAL SCHOOL #307 AND CONTROL SCHOOL #308. THE OBJECTIVE TO BE ATTAINED IS THAT THE STUDENTS IN THE EXPERIMENTAL SCHOOL WILL DO AS WELL AS OR BETTER THAN THE CONTROL STUDENTS ON THIS TEST.*

The Vineland Social Maturity Test is also useful in distinguishing between mental retardation with social incompetence (feeble-mindedness) and mental retardation without social incompetence (which is often confused with feeblemindedness). It also affords assistance in child guidance and child training, by means of evaluating the influence of environment, of cultural status, and the effects of such handicaps as blindness, deafness, or crippling. In short, the social status of the individual is a basic consideration in many scientific studies where human adjustment is a major concern. Unfortunately, this test was not administered to Project Trainable students. Therefore, Performance Objective #2 was not attained.

> *PERFORMANCE OBJECTIVE #3. TO SHOW THAT TRAINABLE STUDENTS ENROLLED IN EXPERIMENTAL SCHOOL #307 AND TAUGHT BY TEAM TEACHING STAFF DEPLOYMENT PATTERNS WILL DO AS WELL OR BETTER ON THE PEABODY PICTURE VOCABULARY TEST AS TRAINABLE CHILDREN TAUGHT BY THE CONVENTIONAL SELF-CONTAINED TEACHER METHOD.*

Peabody Picture Vocabulary Test

The Peabody Picture Vocabulary test was administered to trainable students in the fall (September) of 1969 and in the spring (May) of 1970. This test is designed to provide an estimate of a person's verbal intelligence through measuring his hearing vocabulary.

The test has wide utility as a clinical tool. Besides being effective with average subjects, it has special value with certain other groups. Since subjects are not required to read, the scale is especially fair for non-readers and remedial reading cases. Since responses are non-oral, it is made appropriate for the speech impaired (especially the expressive aphasic and stutterer), and has advantages with certain autistic, withdrawn, and psychotic persons by reducing the tensions of the testing situation. Since neither a pointing nor oral response is essential, cerebral palsied persons are less handicapped in the testing situation. Since the illustrations are clean, bold, line drawings, most partially seeing persons are not seriously penalized by the test. With the drawings free of fine detail and figure-ground problems, the test is apparently appropriate for at least some perceptually impaired persons. Thus the scale may be given to any English speaking resident of the United States between 2 years and 6 months and 18 years who is able to hear words, see the drawings, and has the facility to indicate "yes" and "no" in a manner which communicates.

The PPVT has a number of advantages. Among these are the following: (1) the test has high interest value and therefore is a good rapport establisher; (2) extensive specialized preparation is not needed for its administration; (3) it is quickly given in 10 to 15 minutes; (4) scoring is completely objective and quickly accomplished in one or two minutes; (5) it is completely untimed and thus is a power rather than a speed test; (6) no oral response is required; (7) alternate forms of the test are provided to facilitate repeated measures; and (8) the test covers a wide age range.

Trainable students in School #307 made scores on the PPVT that ranged from 10 to 89 on the pre-test and 10 to 74 on the post-test. Trainable students in the control School #308 made scores on the PPVT that ranged from 10 to 93 on the pre-test to 10 to 88 on the post-test. On the pre-test, School #307 had a mean of 55.3 on the PPVT, and School #308, 55.8. The mean difference was not statistically significant at the .01 level of significance. See Table 4.13. On the post-test the verbal intelligence scores ranged from 10 to 74 in School #307 and from 10 to 88 in School #308. The mean Score in School #307 was 49.2 and in School #308 was 53.5. The mean difference was not statistically significant at the .01 level of significance. On the Net Gain Scores (the difference between each student's pre-test and post-test PPVT scores) School #307 had a mean net loss of -7.2 and School #308 a mean net loss of -1.1.

Table 4.13

Difference of Means Statistics on the Peabody Picture Vocabulary Test for Students in Experimental School #307 and Control School #308, Trainable Mentally Retarded Project, Data for 1969-70 School Year

Item	School #307			School #308			C.R.[a]
	Mean	Std. Dev.	No. of Cases	Mean	Std. Dev.	No. of Cases	
1. Pre-test Peabody Picture Vocabulary	55.3	16.7	76	55.8	17.1	82	-0.19
2. Post-test Peabody Picture Vocabulary	49.2	16.4	42	53.5	15.1	44	-1.26
3. Net Gain Peabody Picture Vocabulary Test[b]							

a. Refers to critical ratios between the means of Schools #307 and #308.

b. Refers to the number obtained when the child's pre-test score is subtracted from his post-test score. The resultant number could be positive or negative.

The mean difference was not significant. Why students should on the average score lower on verbal intelligence over an eight month period is enigmatic. Perhaps, the Peabody Picture Vocabulary Test is not a valid measure of verbal intelligence for trainable students (i.e. pupils with low verbal intelligence).

With regards to Performance Objective #3, the staff deployment pattern has definitely not operated to the disadvantage of trainable students in School #307 when compared to trainable students in School #308. Therefore, Performance Objective #3 has been attained as indicated by the evidence previously discussed.

> *PERFORMANCE OBJECTIVE #4. TO ADMINISTER THE KAPPITZ HUMAN FIGURE DRAWING TEST TO TRAINABLE STUDENTS IN THE PROJECT IN ORDER TO SHOW THAT THOSE ENROLLED IN THE EXPERIMENTAL SCHOOL #307 AND TAUGHT THROUGH A STAFF DEPLOYMENT PATTERN INVOLVING A TEAM TEACHING INSTRUCTIONAL APPROACH WILL DO AS WELL OR BETTER THAN THOSE IN THE CONTROL SCHOOL #308 AND TAUGHT THROUGH THE CONVENTIONAL SELF-CONTAINED CLASSROOM TEACHER TEACHING METHOD.*

Kappitz Human Figure Drawing Test

The Kappitz Human Figure Drawing Test provides data for clinical interpretations which are indicated as follows:

1. Children's approach toward life's problems

    a. Ambition
    b. Vacillating attitudes toward life
    c. Retreat from life's problems

2. Children's attitudes toward significant events
    - a. Happy events
    - b. Reactions to illness and hospitalization
    - c. Attitudes toward a new family member, baby, etc.
    - d. Attitudes toward separation from parents
3. Children's attitudes toward themselves
    - a. Concern about age
    - b. Concern about physical appearance
    - c. Concern about specific disabilities
    - d. Concern about school achievement
    - e. Concern about behavior
4. Children's attitudes towards their family

On the pre-test Kappitz Human Figure Drawing Test, trainable students in School #307 made scores ranging from 0 to 25 whereas those in School #308 made scores ranging from 1 to 24. The ranges on the post-tests were almost identical to those made on the pre-tests. As the data in Table 4.14 shows, pupils in the control School #308 had higher Kappitz pre-test scores than those in the experimental School #307. The mean difference was significant at the .01 level of significance. However, after eight months of instruction utilizing the team teaching staff deployment pattern, trainable students in the experimental School #307 had a mean score of 11.5 and those in the control School #308 of 13.6 but this mean difference was not statistically significant at the .01 level of significance. Also when the mean net gain scores were compared for both the control and experimental groups, the difference was not statistically significant at the

Table 4.14

Difference of Means Statistics on the Kappitz Human Figure Drawing Test for Students in Experimental School #307 and Control School #308, Trainable Mentally Retarded Project, Data for 1969-70 School Year

Item	School #307			School #308			
	Mean	Std. Dev.	No. of Cases	Mean	Std. Dev.	No. of Cases	C.R.[a]
1. Pre-test Kappitz Human Figure Drawing Test	10.1	4.8	69	13.2	5.0	78	-3.83
2. Post-test Kappitz Human Figure Drawing Test	11.5	5.3	40	13.6	5.4	44	-1.80
3. Net Gain Scores on Kappitz Human Figure Drawing Test[b]	1.2	3.9	29	0.7	3.9	35	0.51

a. Refers to critical ratios between the means of Schools #307 and #308.

b. Refers to the number obtained when the child's pre-test score is subtracted from his post-test score. The resultant number could be positive or negative.

.01 level of significance.

The test results obtained on the Kappitz Human Figure Drawing Test show that the conventionally taught control trainable pupils did not do better than the experimental students taught through the team teaching staff deployment pattern. Therefore, Performance Objective #4 was attained.

> *PERFORMANCE OBJECTIVE #5. A PARENT QUESTIONNAIRE WILL BE ADMINISTERED TO THE PARENTS OF THE TRAINABLE STUDENTS IN BOTH THE EXPERIMENTAL SCHOOL #307 AND THE CONTROL SCHOOL #308. THE PURPOSE OF THIS OBJECTIVE IS TO DETERMINE IF PARENTS OF THE CHILDREN IN THE EXPERIMENTAL SCHOOL WERE MORE INVOLVED, UNDERSTOOD BETTER, AND SUPPORTED MORE THE TRAINABLE MENTALLY RETARDED PROGRAM THAN THE PARENTS OF CHILDREN IN THE CONTROL SCHOOL.*

The questionnaire entitled "A Parent Questionnaire for Staffing Patterns Project" was administered to parents of students in both School #307 and #308. The results of this questionnaire were indicated in Table 4.6. The data contained in this table, do not indicate conclusively that the parents of trainable students in School #307 were more involved, understood better, and supported more the experimental Trainable Staff Deployment Project than the parents of students in the control School #308.

Interestingly, both the control and experimental schools had the services of Parent Liaison Workers. Both the teachers of the control school and the Teacher Interns of the experimental school had an opportunity to evaluate the work of the Parent Liaison Workers and to ascertain the parents' understanding and involvement in their children's school work. Both groups of teachers had an opportunity to respond to the statement "The parents of our pupils understood the program." In both control and experimental schools, the teachers felt overwhelmingly that parents did not understand the trainable program. Of the 14 teacher respondents in the control school, 2 indicated the parents did not understand the Trainable Program at all, 2 thought the parents understood a little, 8 indicated some understanding, 1 indicated much understanding, and 1 stated the parents of her pupils understood the program completely. Of the 24 Teacher Intern respondents in the experimental school, 1 thought the parents did not understand the Trainable Program at all, 6 a little, 12 some, 4 very much, and 1 Teacher Intern stated that the parents of her pupils understood the Trainable Program completely.

Another question asked teachers concerning the parents of pupils was phrased "The parents of our pupils cooperated with the program." This question was asked of the Teacher Interns in the experimental school but not of the teachers in the control school. Of the 24 Teacher Intern respondents, 5 indicated parents did not cooperate with the Trainable Program at all, 6 stated a little, 12 somewhat, 4 very much, and 1 Teacher Intern stated that parents cooperated completely with the Trainable Program.

The Parent Liaison Worker's job description was to visit the homes of parents and explain to them the role they could play in their child's educational program. The Parent Liaison Worker's job description also stated that this person should provide answers to questions which the parents might have about the program and to gather data about the home and child which would be of great value to the child's teacher. One statement that both teachers and Teacher Interns were asked to comment on was "The information shared by the Parent Liaison Worker was helpful." Of the 14 teacher respondents in the control school, 9 indicated that the information provided by the Parent Liaison Worker was of no value whatsoever, 3 indicated much, and 2 very much. Of the 24 Teacher Intern respondents, 12 felt that the information supplied by the Parent Liaison Worker was of no value whatsoever, 5 a little, 4 some, 2 much, and 1 very much. Some of the Teacher Interns" remarks about the Parent Liaison Worker were derogatory. One teacher's remark about the Parent Liaison Worker was "she never did anything other than hang around in the office with her pal, the principal."

Based on the data available, there is no reason to believe that Performance Objective #5 was attained. If anything, there is reason to believe that the relationships between school and home left much to be desired and that persons charged with the specific duty to improve home-school relationships and understanding did a poor job.

PERFORMANCE OBJECTIVE #6. TO ASCERTAIN PER PUPIL COSTS TO EDUCATE STUDENTS IN BOTH THE EXPERIMENTAL SCHOOL #307 AND THE CONTROL SCHOOL #308. THE PURPOSE OF THIS OBJECTIVE IS TWO-FOLD: (1) TO RELIEVE THE BURDEN OF FINDING MASTER TEACHERS TO TEACH TRAINABLE STUDENTS BY RECRUITING PERSONS WHO POSSESS ABOUT TWO YEARS OF COLLEGE TRAINING; AND (2) TO DEMONSTRATE THAT A STAFF DEPLOYMENT PATTERN UTILIZING TEACHER INTERNS AND MASTER TEACHERS (USING RATIOS OF THREE OR FOUR INTERNS TO ONE MASTER TEACHER) WILL RESULT IN REDUCED PER PUPIL INSTRUCTIONAL COSTS TO EDUCATE TRAINABLE STUDENTS WHEN COMPARED TO THOSE FOR STUDENTS IN CONVENTIONALLY TAUGHT CLASSROOMS.

Expenditure data for experimental School #307 and control School #308 are contained in Tables 4.15 and 4.16 for FY 1968-69; Tables 4.17 and 4.18 for FY 1969-70; and Tables 4.19 and 4.20 for FY 1970-71.

As indicated from data contained in Table 4.1, School #307 had an Average Daily Membership of 100.0 pupils in 1968-69; of 100.8 pupils in 1969-70; and of 99.1 pupils in 1970-71. School #308 had an Average Daily Membership of 100.0 pupils in 1968-69; of 99.1 pupils in 1969-70; and of 102.2 pupils in 1970-71.

For FY 1968-69 School #307 expended $157,971 and School #308 expended $91,142. However, of School #307's amount $7,247 was for locally supported free school lunches not included in School #308's expenditures and therefore should not be included in School #307. Also, the Federal Government supported aspects of the program to the extent of $55,000. Since these were costs over and beyond the

Table 4.15

School No. 307
Expenditures by Major Budget Function
FY 1968-69

Major Function	Source of Funds			
	Local	State	Federal	Total
100 - Administration	$1,974	$471	$5,018	$7,463
200 - Instruction	52,802	16,268	37,651	106,721
300 - Attendance Services	292	210	44	546
400 - Health Services	317	229	4,847	5,393
500 - Pupil Transportation Services	4,374	299	212	4,885
600 - Operation of Plant	2,249	1,622	337	4,208
700 - Mainteance of Plant	1,342	968	201	2,511
800 - Fixed Charges	4,403	994	3,739	9,136
900 - Food Services	7,247	34	7,335	14,616
1000 - Student Body Activities	96	69	14	179
1230 - Capital Outlay - Equipment	1,236	892	185	2,313
Total	$76,332	$22,056	$59,583	$157,971

Table 4.16

School No. 308
Expenditures by Major Budget Function
FY 1968-69

Major Function	Source of Funds Local	 State	 Federal	Total
100 - Administration	$2,100	$476	$99	$2,675
200 - Instruction	49,574	16,431	3,415	69,420
300 - Attendance Services	300	206	45	551
400 - Health Services	320	231	48	599
500 - Pupil Transportation Services	4,490	302	63	4,855
600 - Operation of Plant	2,272	1,638	340	4,250
700 - Maintenance of Plant	1,356	977	203	2,536
800 - Fixed Charges	4,540	1,004	209	5,753
900 - Food Services	47	34	7	88
1000 - Student Body Activities	97	70	14	181
1230 - Capital Outlay - Equipment	125	90	19	234
Total	$65,221	$21,459	$4,462	$91,142

Table 4.17

School No. 307
Expenditures by Major Budget Function
FY 1969-70

Major Function	Source of Funds			
	Local	State	Federal	Total
100 - Administration	$1,805	$903	$4,886	$7,594
200 - Instruction	40,047	32,956	56,210	129,213
300 - Attendance Services	38	31	6	75
400 - Health Services	915	753	4,349	6,017
500 - Pupil Transportation Services	9,578	1,363	269	11,210
600 - Operation of Plant	3,588	2,951	583	7,122
700 - Maintenance of Plant	1,755	1,443	285	3,483
800 - Fixed Charges	4,971	4,088	5,872	14,931
900 - Food Charges	15,086	226	45	15,357
1000 - Student Body Activities	113	93	19	225
1230 - Capital Outlay - Equipment	1,111	914	180	2,205
Total	$79,007	$45,721	$72,704	$197,432

Table 4.18

School No. 308
Expenditures by Major Budget Function
FY 1969-70

Major Function	Source of Funds Local	State	Federal	Total
100 - Administration	$1,109	$912	$181	$2,202
200 - Instruction	55,162	45,362	8,967	109,491
300 - Attendance Services	38	32	6	76
400 - Health Services	925	760	150	1,835
500 - Pupil Transportation Services	1,674	1,377	272	3,323
600 - Operation of Plant	3,624	2,980	589	7,193
700 - Maintenance of Plant	1,772	1,458	288	3,518
800 - Fixed Charges	1,488	1,223	242	2,953
900 - Food Services	277	228	45	550
1000 - Student Body Activities	114	94	19	227
1230 - Capital Outlay - Equipment	1,121	923	182	2,226
Total	$67,304	$55,349	$10,941	$133,594

Table 4.19

School No. 307
Expenditures by Major Budget Function
FY 1970-71

Major Function	Source of Funds Local	State	Federal	Total
100 - Administration	$2,127	$1,220	$5,637	$8,984
200 - Instruction	46,307	46,063	35,219	127,589
300 - Attendance Services	74	73	8	155
400 - Health Services	588	585	5,106	6,279
500 - Pupil Transportation Services	20,262	2,604	600	23,466
600 - Operation of Plant	4,173	4,151	478	8,802
700 - Maintenance of Plant	1,968	1,958	225	4,151
800 - Fixed Charges	1,608	1,600	3,270	6,478
900 - Food Services	15,022	209	24	15,255
1000 - Student Body Activities	166	165	19	350
1230 - Capital Outlay - Equipment	881	877	101	1,859
Total	$93,176	$59,505	$50,687	$203,368

Table 4.20

School No. 308
Expenditures by Major Budget Function
FY 1970-71

Major Function	Local	State	Federal	Total
100 - Administration	$1,251	$1,245	$143	$2,639
200 - Instruction	63,247	62,913	7,244	133,404
300 - Attendance Services	75	74	9	158
400 - Health Services	307	306	35	648
500 - Pupil Transportation Services	2,671	2,657	306	5,634
600 - Operation of Plant	4,257	4,235	488	8,980
700 - Maintenance of Plant	2,008	1,997	230	4,235
800 - Fixed Charges	1,640	1,632	188	3,460
900 - Food Services	214	213	25	452
1000 - Student Body Activities	170	169	19	358
1230 - Capital Outlay - Equipment	465	462	53	980
Total	$76,305	$75,903	$8,740	$160,948

Source of Funds: Local, State, Federal

staff deployment pattern these expenditures should not be included as part of School #307's typical school expenditures. The subtraction of these amounts results in an adjusted figure of $95,724 for School #307. On a per pupil cost basis, School #307 expended $957 per pupil in ADM for FY 1968-69 compared to $911 for School #308.

For the FY 1969-70, School #307 expended $197,432 and School #308 expended $133,594. When School #307's expenditures are adjusted for unusual expenditures because of its research requirements, $60,501 from Federal Funds and $15,086 from local funds may be subtracted, the net expenditures are $121,845. On a per pupil basis, School #307 expended $1,209 per pupil in ADM for FY 1969-70 compared to $1,348 for School #308.

For the FY 1970-71, School #307 expended $203,368 and School #308 expended $160,948. When School #307's expenditures are adjusted for unusual expenditures because of its research requirements, $43,836 from Federal funds and $15,022 from local funds may be subtracted out, the net expenditures are $144,510. On a per pupil cost basis, School #307 expended $1,458 per pupil in ADM for FY 1970-71 compared to $1,575 for School #308.

The per pupil cost data between the experimental School #307 and the control School #308 indicates that School #308 was lower in FY 1968-69, but higher in FY 1969-70 and FY 1970-71. Part of the per pupil cost differences may be attributed to different levels of training and experience in School #308. The cost data certainly do indicate that a trainable staff deployment pattern utilizing a team teaching approach with one Master Teacher per three Teacher Interns is no costlier than utilizing all fully certified Special Education Teachers for trainable students. Moreover, since the experimental trainable students did not suffer any academic losses as measured by several standardized tests compared to control trainable students, Performance Objective #6 may be considered as having been attained.

> *PERFORMANCE OBJECTIVE #7. TO RATE TRAINABLE STUDENT PROGRESS IN BOTH EXPERIMENTAL AND CONTROL SCHOOLS THROUGH THE USE OF EXPERTS IN SPECIAL EDUCATION. THESE RATINGS OF TRAINABLE STUDENTS BY SUPERVISORS, PRINCIPALS, SPECIALISTS, AND OTHER EXPERTS IN TRAINABLE MENTALLY RETARDED EDUCATION WILL BE USED AS SUBJECTIVE MEASURES TO SUPPLEMENT THOSE DERIVED FROM OBJECTIVE STANDARDIZED TESTS. THE PURPOSE OF THIS OBJECTIVE IS TO ASCERTAIN WHETHER TRAINABLE SPECIAL EDUCATION EXPERTS RATE PUPIL PROGRESS IN THE EXPERIMENTAL SCHOOL SIGNIFICANTLY BETTER THAN THAT IN THE CONTROL SCHOOL.*

No pupil progress ratings by the suggested team of trainable special education experts were made available to the authors. No evidence exists that such ratings were actually made. However, report cards and conference reports were available in the cumulative folders of the individual children. Growth or lack of it as noted by the teacher was recorded there. Still no ratings of trainable students by Special Education Supervisors, Specialists, Principals, and other experts were made and recorded on specially designed rating forms. Therefore, Performance Objective #7 could not be evaluated and must be considered as not attained.

> *PERFORMANCE OBJECTIVE #8. THE TRAINABLE MENTALLY RETARDED PROJECT STAFF IN SCHOOL #307 WILL DEVELOP WRITTEN GUIDES FOR TRAINABLE MENTALLY RETARDED STUDENTS IN THE FOLLOWING LEARNING AREAS: (1) PUPIL ARRIVAL TIME; (2) ARTS AND CRAFTS; (3) PHYSICAL EDUCATION ACTIVITIES; (4) HOME ARTS; (5) ARITHMETIC; (6) COMMUNICATIONS SKILLS; AND (7) NUTRITIONAL SKILLS AND SOCIAL GRACES.*

The seven written guides enumerated in Performance Objective #8 were developed and published. These guides appear in the Appendix. Therefore, Performance Objective #8 was attained.

A SUMMARY OF PERFORMANCE OBJECTIVES FOR TRAINABLE STAFF DEPLOYMENT

Of the eight performance objectives listed four were attained completely, three were not, and one was doubtful. The four performance objectives that were attained indicated that the main purpose of the Trainable Mentally Retarded Staff Deployment Project was achieved: that is, that persons with only two years of college or less would not adversely affect either the academic or emotional development of trainable mentally retarded children than would teachers who had college degrees or masters degrees in special education.

Performance Objectives #1 and #3 dealing with the Illinois Test of Psycho-Linguistic and the Peabody Picture Vocabulary Test indicated that the trainable children in the experimental school progressed intellectually as well but not more or less than the trainable children in the control school. Unfortunately, the Vineland Social Maturity Scale was not administered and therefore Performance Objective #2 was not attained. The Vineland Social Maturity Test would have yielded valuable comparative data on the social maturity of the experimental and control trainable children.

Performance Objective #4 dealt with trainable children's attitudes towards life's problems, significant events, towards themselves, and attitudes towards their families. The clinical data was obtained from the administration of the Kappitz Human Figure Drawing Test. An analysis of the Kappitz Human Figure Drawing Test results showed that neither the control or experimental children deviated significantly from each other in their attitudes towards life, themselves, or their families. Thus, the Trainable Staff Deployment Project did not adversely affect trainable children's attitudes in the areas just enumerated even though the teachers had less than two years of college compared to four years or more for those teachers in the control school.

Performance Objective #5 dealt with the parents of the trainable children. Presumably, through the home visits of the Social Worker and Parent Liaison Worker, the parents of trainable children in the experimental school were to become more knowledgeable and participate more in their school's educational activities than the parents of the trainable children in the control school. The fact that Performance Objective #5 was not achieved was probably more a function of how the Social Worker and the Parent Liaison Worker viewed their jobs. There is no objective evidence to indicate that these resource personnel made the concentrated effort necessary to involve the parents of trainable children in their child's school activities. That they should have almost goes without saying.

Performance Objective #6 was concerned with comparative pupil costs. When only salary cost comparisons are made related to differences in staffing patterns, per pupil costs in the experimental school were no greater than those in the control school. In fact, in two out of the three years of the project, per pupil costs were lower in the experimental school than in the control school. Therefore, Performance Objective #6 was attained.

Performance Objective #7 involved rating trainable student progress. A team of special education experts (specialists, supervisors, etc.) was to have rated trainable pupil progress in both the experimental and control schools. This was not done. This task was the responsibility of the Project's Director. Why it wasn't carried out can only be surmised. Therefore, Performance Objective

#7 was not attained. On the basis of the objective tests administered (Illinois Test of Psycho-Linguistics, Peabody Picture Vocabulary Test, and the Kappitz Human Figure Test), it appears likely that had such a team evaluated pupil progress, no significant differences would have been noted between the experimental and control trainable children ratings.

Performance Objective #8 pertained to the development of written trainable learning guides in selected areas. This is the one performance objective that really drew Project Personnel together for the good of the trainable children. Resource personnel, Teacher Interns, Master Teachers, and Project Administrators all worked hard to develop written learning guides. As indicated previously these guides appear in the Appendix. Performance Objective #8 was definitely attained, both quantitatively and qualitatively.

CHAPTER 5

EVALUATION, CONCLUSIONS AND RECOMMENDATIONS REGARDING THE TRAINABLE MENTALLY RETARDED STAFFING PROJECT

As indicated at the outset, the Trainable Mentally Retarded Staffing Project was a multi-purpose project. The two main purposes were concerned with staff deployment and level of staff training. The principal hypothesis was that trainable children if subjected to the staff deployment pattern proposed in the project would still do as well but not worse academically, emotionally, intellectually, socially, and attitudinally as their trainable counterparts taught in the traditional self-contained classroom. The Trainable Staffing Project was not intended to denigrate or downgrade pupil learning in a self-contained classroom environment. Instead the Trainable Staffing Project was an experimental response to those school districts which (1) could not employ fully certified trainable special education teachers even if they wanted to and/or (2) lacked sufficient funds to employ fully certified trainable special education teachers.

The Trainable Staff Deployment Project described herein then was an attempt to assess an alternative staff deployment pattern which cost less money than the traditional self-contained classroom staff deployment pattern, and equally as important, didn't depend on fully trained and certified trainable special education teachers which were in extremely short supply anyway. Therefore, (1) if Teacher Interns with two years of college could be recruited (the hope here was that junior colleges in the nation would start offering an Associate Arts degree in Special Education and that State Departments of Education would certify such persons to teach trainable special education classes), and (2) if one Master Teacher in Special Education would supervise about four Teacher Interns utilizing team teaching techniques and procedures, and (3) if trainable children so taught learned as much as their counterparts taught under traditional conditions, then this project would offer school districts a proven, reasonable solution to their problems of finding fully certified special education teachers in the numbers needed at cost levels the districts could afford. The remainder of this chapter deals with (1) evaluative comments, and (2) some recommendations and conclusions about the Project.

SOME DETAILED EVALUATIVE COMMENTS REGARDING THE TRAINABLE STAFF DEPLOYMENT PROJECT

Some of the data collected about the Trainable Staff Deployment Project could not be appropriately subsumed under either a specific management or performance objective. Even when some data could, the authors felt that the data would best serve the main purposes of the Project if presented, analyzed, and evaluated in Chapter 5 which was to deal with a general overall evaluation of the Project's successes and failures. Besides not all data were objective. Some data represented the opinions and feelings of Project personnel. Such subjective data could shed light on the Project's successes or failures.

Teacher Turnover

Of the Senior Teachers in the Project, only one teacher (Teacher W) stayed in the program for the entire Project's duration. No other Senior Teachers remained for more than one year. Therefore, two thirds of the Senior Teachers left the Project each year.

Of the Teacher Interns in School #307, the experimental school, only one stayed with her class the first year of the Project (1968-69). However, nine out of ten of the Teacher Interns stayed with their classes the entire year for 1969-70. During the Project's third year (1970-71) seven out of ten Teacher Interns stayed with their classes the entire year. Thus, Teacher Intern turnover was not exceptionally high the last two years of the Project. Moreover, the Area Superintendent for Special Education indicated that this was a fact of life with which the Project's staff deployment pattern had to deal. The Area Superintendent stated that teacher turnover caused additional work in that persons had to be oriented to the Project's approach in educating trainable children. Also, teacher turnover made it necessary to re-establish "working conditions and relationships" among the

Project staff. That the same Teacher Interns nor the same Senior Teachers were available for the entire three years of the Project, placed greater weight on the staff deployment pattern used in the Project. The purpose of the Project was not to assess individual strengths or weaknesses but whether or not the team teaching staff deployment pattern could overcome the negative effects of teacher turnover. The fact of the matter is that it did. The reason for this lies probably in the stabilizing influences the Senior Teachers had in acquainting the new Teacher Interns with their duties.

Also the Senior Teachers still presented certain lessons to the trainable students whose Teacher Interns had left the Program. Thus, Teacher Interns could come and go but the trainable children knew the same Senior Teacher would be there to teach them the entire year. In this sense the team teaching staff deployment pattern stressed stability and overcame the negative effects of Teacher Intern Turnover.

It would have been extremely helpful had the Project Director assessed trainable student reactions to teacher turnover as well as to other aspects of the Trainable Staff Deployment Project. Such student reaction was not obtained. Consequently, an important evaluative input was missing from the Project.

Some reasons for teacher turnover were (1) movement from the community; (2) resignation because of pregnancy; and (3) withdrawal from the school system. Although some persons may regard the rate of teacher turnover as a weakness in the experiment, the authors regarded it as a problem which the Trainable Staff Deployment Project took into account. Had all Master Teachers remained throughout the three years of the Project, the evaluation might have demonstrated that the success of the Project was due to particular individuals who relate effectively to Teacher Interns rather than to any Master Teachers able to work with any Teacher Interns. Because there was teacher turnover and because trainable children continued to be served effectively, the Project did test the staff deployment concept and not particular individuals. This was a basic test for the Trainable Staff Deployment Project and was so programmed from the beginning.

Despite the lack of student reaction to teacher turnover, the authors conclude that the Project's design ameliorated the negative effects of teacher turnover. Moreover, in light of the objective test results attained by Project trainable children in comparison to trainable control children, there's no reason to conclude otherwise.

Senior Teacher Opinions

The Senior Teachers who were responsible for supervising the Teacher Interns in the Trainable Staffing Project had an opportunity to express their opinions about the program. Of the eight persons who functioned as Senior Teachers, six replied to the "Senior Teachers Questionnaire." The results of this questionnaire are contained in Table 5.1.

Table 5.1

Responses of Senior Teachers in Experimental School #307 to the "Senior Teachers Questionnaire" Trainable Mentally Retarded Staff Deployment Project, Baltimore City Public Schools

Statement	NA	L	S	M	VM
1. In your judgment the majority of the intern teachers were well selected for their assignment			2	1	3
2. The number of teachers to whom you were called upon to give assistance was just right.				2	4
3. The work schedule which included 45 minutes for work with members of your team was adequate.	1	1	1		3
4. Although the intern teachers had limited training I had little trouble in communicating with them.			1	1	4
5. The speech therapy services were of considerable help in our program.			2		4
6. The physical education teacher was of considerable help to our program.				3	3
7. The home economics teacher was of considerable help to our program.				2	4
8. The information and in-service work of the parent liaison worker was of considerable help.	2				4

NA means Not at all; L means A little; S means Some; M means Much; and VM means Very Much. (Degree to which objective was met.)

Table 5.1 (Continued)

Responses of Senior Teachers in Experimental
School #307 to the "Senior Teachers Questionnaire"
Trainable Mentally Retarded Staff Deployment Project,
Baltimore City Public Schools

Statement	NA	L	S	M	VM
9. The equipment available to the project contributed to the growth of our pupils.		1		1	4
10. Persons with less than a college degree can learn to use the instructional equipment effectively			1	1	4
11. We were provided with the materials and supplies necessary for a good job.	1		1	2	2
12. The pupils were properly located within our school for learning purposes.	2			1	3
13. Pupils who were too disturbing to remain in school were removed.				6	
14. The principal of the school was fully cooperative.	4		1		1
15. The parents of our pupils understood the program.	1	1	3	1	
16. The parents of our pupils cooperated with the program.	1	1	3	1	
17. The work requirements of me were not excessive	2			4	
18. The aides were necessary if we were to accomplish our purpose.	1			2	3
19. Had I known what would be required of me as a senior teacher I would still have accepted the assignment.	2		1		2
20. In my opinion, persons with less than a college degree who have the regular assistance of senior teachers can do a good job as teachers of trainable mentally retarded children.	1			1	4

The Senior Teachers felt that the Teacher Interns were in the main, "well selected for their assignments" and that they had just about the "right number of Teacher Interns to supervise." The Senior Teachers also felt that though the Teacher Interns had limited college training they had "little trouble in communicating with the Teacher Interns." In the main, the Senior Teachers also indicated that the speech therapy, physical education, and home arts services were of considerable help to the program. One of the surprising responses was that four out of six of the Senior Teachers stated that the Principal of the experimental school was completely uncooperatove towards the program whereas one felt the Principal was somewhat cooperative and one indicated the Principal was completely cooperative.

Of interest to the Trainable Project's evaluative analysis are the comments made by the Senior Teachers. They responded to the open-ended question "Please discuss any problems or successes that you experienced in the Trainable Mentally Retarded Project."

Senior Teacher A considered the following to be Project problems: (1) Too many classroom Teacher Interns were involved in the Project. The turnover was too much. (2) Test results were not made available soon enough to teachers so that they could note differences in progress between individual project students. (3) The Speech Therapist, Music Teacher, and Physical Education Teacher were changed too often. and (4) Too much pressure was placed on the shoulders of the Senior Teachers to succeed in the Project. Senior Teacher A felt that one of the strengths of the Project was to provide funds for the Teacher Interns to attend college.

Senior Teacher B considered the following to be problems concerning the Project: (1) The Teacher Interns were "snowed" by all the work required, (2) The Teacher Interns were not made aware of the fact that so much work was required in the Orientation Program. and (3) Parents could have participated more in the project than they did. Senior Teacher B considered that some of the Project's successes were: (1) All staff members were extremely cooperative. (2) The variety of equipment available was conducive to a good instructional program. and (3) Although not all Teacher Interns were cut out for this Project, they did try to the best of their ability. Senior Teacher B, in light of her Project experience, made the following suggestions to conduct an in depth workshop acquainting the Teacher Interns with their job requirements: (1) The workshop should include an overview of the learning process. (2) How the school day is to be structured. (3) A demonstration in depth of how to utilize instructional equipment. and (4) How to develop trainable lesson plans.

Senior Teacher C. stated that "there wasn't any parent liaison worker despite the fact that funds were budgeted for such services." Also she indicated that limited physical facilities prevented teaching the trainable students such skills as car washing and certain assembly line tasks. Senior Teacher C felt that her "most rewarding experience was working with Teacher Interns and trainable children and seeing both Interns and children grow in knowledge and poise."

Senior Teacher D felt that planning sessions would have been more effective if more time had been spent on planning the next day's lessons and less on criticizing that day's actual lessons taught. She also felt that not enough time was allotted for each Senior Teacher to work with his or her Interns and too much time was allotted to planning activities involving the entire faculty. Senior Teacher D also indicated that Teacher Intern turnover was too great. Therefore, she commented that "just as a particular Intern was learning the procedures and methods that were needed to work with trainable children that teacher would leave." Senior Teacher D felt the reason most Teacher Interns left was because of the Principal's lack of cooperation. On the whole Teacher D felt that the majority of Interns assigned to her were sincere and showed evidence of the knowhow they needed to teach trainble children successfully.

Senior Teacher E stated that "the success I experienced was due to the enthusiasm and cooperation shown by the Teacher Interns." She added "their eagerness and flexibility in implementing studies and activities geared to the needs and abilities of trainable children was extremely gratifying." Senior Teacher E commented that her most aggravating problem was her inability "to accept the type of structured program advocated by the Principal of the experimental school and the Specialist in Special Education."

An analysis and evaluation of the Senior Teachers' responses to the Senior Teacher Questionnaire and their comments on the open-ended questionnaire indicates that in the main morale was high, teachers tried their best to overcome the effects of an uncooperative Principal, they worked hard to supervise properly the Teacher Interns under them, and that they were sincerely dedicated to the principle of equality of educational opportunities for trainable children.

Parent Questionnaire for Staffing Patterns Project

This questionnaire was discussed in summary form under Management Objective #9. However, parents had an opportunity to respond to three open-ended questions. It is these parental responses which are discussed in detail here.

Question #1 on the Parent Questionnaire asked "what do you think were good in the program provided to your child during this experiment (eg: teacher, special teachers, special equipment, lunch program, parent liaison program, home economics experiences)?" Eleven parents responded to Question #1 from School #308 and eighteen from School #307. Of the eleven parents from School #308, 6 thought the best thing about the program was the teachers; 3, the special education equipment; 3, the lunch program; 2, thought everything about the program was wonderful; 1, the small class size; and 1, thought teacher-parent conferences was the best thing about control School #308's special education program. Responses to the open-ended questions were multiple responses and therefore sum to a number greater than the respondents. Most responses merely reflected the key words included as part of Question #1. However, some parents gave the question more than a passing thought. For example, one wrote "the home economics program because it established in my child a sense of pride and responsibility in that it taught her how to have and to keep a nice home and the importance of good grooming."

Of the 18 respondents from the experimental School #307, most cited as did the parents in the control School the key answer hints. The frequency of the responses to Question #1 in School #307 were as follows: 6 considered the most wonderful thing about the program to be the special teachers; 6 cited the home economics program; 6 cited the lunch program; 2 opted for the special equipment; and 2 for the physical education program. Two parents thought everything about the program in School #307 was wonderful. One parent indicated that her child did not "get good teachers" and another parent remarked that "the teachers were changed too often." Apparently that parent was unaware that this was due to teachers freely electing to leave rather than the project administrators making forced changes.

Question #2 on the Parent Questionnaire asked "what things might be changed in the program which your child had experienced at School #307?" For the parents at School #308, the questionnaire directed to them had School #308 rather than School #307. Ten parents in School #308 responded to Question #2. Five of these parents indicated that the trainable program in School #308 was fine and the school was doing the best it could. One parent indicated that more emphasis should be placed on improving eating habits; two parents wanted better reading programs; and one parent stated that "the children should be allowed to have and to carry from home and to school pens, pencils, and notebooks so that the trainable children would give the appearance of being like the other children (normal)."

Thirteen parents from School #307 indicated responses to Question #2. Seven parents indicated the experimental program was great and they couldn't think of anything that should be changed; one parent wanted improved speech therapy program; one parent said that "the work in school was baby work;" one parent wanted the school "to reduce teacher turnover;" and one parent stated that "the whole program in School #307 needs changing."

Question #3 on the Parent Questionnaire asked "Please use the remaining space on this questionnaire to share with us any problems, successes or ideas which you feel will be helpful in future planning for children enrolled in the trainable program." Nine parents responded to this question in School #308. With respect to Question #3, 5 parents in School #308 thought the program was successful; 1 parent wanted the trainable program to emphasize reading; 1 parent requested that trainable children be retested more often for possible placement in the regular academic curriculum; 1 parent felt that the school emphasized play rather than work; 1 parent wanted the school to get her boy to tell her what was going on in school each day and change his attitude of hating school to liking school; and 1 parent thought that "children were being more harmed than helped by being separated from their peers and friends and placed in a school devoted exclusively to trainable children." This same parent continued "in the future provisions should be made to place slow learners in regular school settings because they have to deal with society in a real life setting and should not be set aside from society and called (special)." This parent in control School #308 then continued "special education has a definite purpose but----I think the child who has been in special education should receive special attention through recommendations, evaluations, screening, retesting, and that special education experts should work harder to try to return this child to the regular educational system."

With respect to parental responses from School #307 to Question #3, 3 parents stated they wanted the school to teach their trainable children to read and write; 1 parent deplored the high rate of teacher turnover; 1 parent wanted the school to work towards placing her child in the regular academic program; 1 parent thought the program was highly successful whereas another stated the program wasn't any good at all; and 1 parent requested that trainable children should be permitted to attend school until they are 21 years of age.

The parental comments seem to have running through them suggestions based upon hope and prayers emanating from the heartstrings rather than reason based upon the brain. Few persons can fault these parents for wanting the school program to accomplish more miracles than it is really capable of delivering. This attitude of hope is best felt by quoting two parents directly mistaken English and all.

Parent A prayfully hopes:

> "I would like to know when are they going to teach him to read and write. That i the two most important things in Michael's life. He needs to read & write. Hes 13 year old and he's geting older. I just want him to read & write. If there is a place I can send him there to learn him please let me know. I want to help him with this."

Parent B similarly expresses her hopes and fears:

> "I think you shouldn't hold a child back if he can do a little more then others let him do up to what he is able. My child used to read a little, but he was held back they realy had him in T-4. Now the school he is in now he sit in T-1. They go by their age in stead of what they can do. I think that is wrong. They have to make a living if they can. I know they can't do every thing but why hold them back and I feel that is what has been done. My child is doing very well now the Dr said by child could be Educated up to a certain point."

An analysis and evaluation of the parental responses indicate that the school personnel need to work extremely hard to convey to the parents a true understanding of special educational trainable programs. In this regard, the work of Parent Liaison Workers, Social Workers, and the Principal of the school is crucial. Moreover, all persons connected with trainable programs must understand that the parents of trainable children will never cease to pray and hope for educational miracles insofar as their trainable children are concerned.

Trainable Teachers Questionnaire

Teachers in both the control and experimental schools were requested to complete a "Teacher Questionnaire" which sought to obtain teacher opinions on various aspects of the Trainable Mentally Retarded Staff Deployment Project in order to evaluate the trainable program and to improve the program based upon responses to the "Teacher Questionnaire."

Teachers were asked to: "Please read each statement carefully. If you believe the objective expressed by the statement was not met at all indicate none. If you believe the objective expressed by the statement was completely attained or met, check completely. If you believe the objective was only partially attained, then check the box which most nearly expresses your opinion of the degree the objective was attained, for example, a little, or some, or very much."

Of the twenty-seven different persons who occupied the position "Teacher Intern" in School #307, twenty-four responded to the "Teacher Questionnaire." This was a twenty item questionnaire whose results appear in Table 5.3. Of the twenty-two different persons who occupied the position "Trainable Teacher" in School #308, fourteen responded to the "Teacher Questionnaire." This was a fifteen item questionnaire whose results appear in Table 5.2.

Table 5.2

Responses to Teacher Questionnaire Administered to Experimental School #307 Teachers, Trainable Mentally Retarded Staff Deployment Project

Statement	NA	L	S	M	VM
1. The examination used to select intern teachers for this project was a fair one.	2	3	2	5	12
2. The senior teachers were available to help me as I needed assistance.	1	1	4	3	15
3. The inservice activities at the end of the teaching day were helpful.	1	2	2	4	15
4. I usually knew what my lessons were planned to accomplish	2	1	4	5	12
5. I was permitted to select follow-up activities on a given day.	1	1	3	4	15
6. The inservice activities planned by the speech therapist were helpful.	0	0	2	4	18
7. The inservice activities planned by the physical education teacher were helpful.	0	0	2	9	12
8. The information shared by the Parent Liaison worker was helpful.	12	5	4	2	1
9. The equipment available to me was sufficient to do the job.	0	2	4	6	12
10. The supplies and materials available to me were adequate.	1	2	4	7	10
11. The pupils in my class were, in my judgment, properly placed.	2	4	7	6	5
12. If I had trouble at work with a pupil, help was available to me.	3	2	2	7	10

NA means Not at all; L means A little; S means Some; M means Much; and VM means Very Much. (Degree to which objective was met.)

Table 5.2 (Continued)

Responses to Teacher Questionnaire Administered to Experimental School #307 Teachers, Trainable Mentally Retarded Staff Deployment Project

Statement	NA	L	S	M	VM
13. I believe the pupils in my class made good gains in skills.	0	0	6	10	8
14. The principal of my school was fully cooperative.	12	5	4	1	2
15. The parents of our pupils understood the program.	1	6	12	4	1
16. The parents of our pupils cooperated with the program.	5	6	8	3	2
17. Enough time was allowed me to plan for the work of the aides.	6	8	6	1	1
18. The aides carried out their duties efficiently.	2	4	3	6	10
19. In my opinion persons with less than a college degree can do a good job as teachers of trainable mentally retarded children.	1	2	4	7	10
20. Had I known what the job would require of me before I accepted it I would still have been happy to be part of this project.	4	2	4	6	8

NA means Not at all; L means A little; S means Some; M means Much; and VM means Very Much. (Degree to which objective was met.)

Table 5.3

Responses to Teacher Questionnaire Administered to Control School #308 Teachers, Trainable Mentally Retarded Staff Deployment Project

Statement	NA	L	S	M	VM
1. I was sufficiently oriented to the program for trainables before I began work.	2	6	2	2	2
2. Supervisory assistance was available to me.	0	3	6	2	3
3. A good inservice program was organized and available.	4	3	3	0	4
4. I usually knew the sequence of experiences required by my pupils.	0	2	8	1	3
5. Resource help was usually available to me.	2	2	4	4	2
6. I had sufficient instructional equipment to help me with my work.	0	2	3	7	2
7. The supplies and materials available to me were adequate.	0	2	4	8	0
8. The pupils in my class, were, in my judgment, properly placed.	4	2	1	5	2
9. The information shared with me by the Parent Liaison worker was helpful	9	0	0	3	2
10. If I had trouble at work with a pupil, help was available to me.	0	2	1	7	4
11. I believe the pupils in my class made good gains in skills.	0	0	4	5	5

NA means Not at all; L means A little; S means Some; M means Much; and VM means Very Much. (Degree to which objective was met.)

Table 5.3 (Continued)

Responses to Teacher Questionnaire Administered to
Control School #308 Teachers, Trainable
Mentally Retarded Staff Deployment Project

Statement	NA	L	S	M	VM
12. The principal of my school was fully cooperative	0	0	0	2	12
13. The parents of our pupils understood the program.	2	2	8	1	1
14. The aides carried out their duties efficiently.	0	0	4	6	4
15. In my opinion, I could have done as good a job with my pupils had I had no college training.	4	3	5	2	0

NA means Not at all; L means A little; S means Some; M means Much; and VM means Very Much. (Degree to which objective was met.)

Statement #2 on both "Teacher Questionnaires" concerned supervisory assistance available to the trainable teachers. Only 5 out of the 14 Teachers in the Control School #308 felt that the supervisory assistance available to them was good or very good compared to 18 out of 24 of the Teacher Interns in the Experimental School #307. This isn't surprising since the staff deployment pattern in School #307 provided for one Senior Teacher to supervise and work with three Teacher Interns.

Teachers were asked to respond to the adequacy of instructional equipment. Out of the 14 Teachers in School #308, 9 felt that the equipment was much or very adequate. Out of the 24 Teacher Interns in School #307, 18 stated that the equipment was much or very adequate. Clearly, both control and experimental teachers felt that the instructional equipment was much or very adequate. Clearly, both control and experimental teachers felt that the instructional equipment available to them was definitely adequate. Teachers in both the control and experimental schools also considered the instructional materials and supplies to be exceedingly adequate.

With respect to an inservice program, only 4 of 14 Teachers in the control School #308 considered their inservice program to be of very much help whereas 19 out of 24 of the Teacher Interns in the experimental School #307 stated the inservice program was of much or very much benefit to them.

Interestingly neither the Teachers in the control school or the Teacher Interns in the experimental school considered the work of the Parent Liaison Workers to be particularly helpful to them. Also, there was a contrasting feeling concerning how the teachers felt about how cooperative their Principals were. Fourteen out of 14 of the Teachers in the control School #308 thought their Principal was much or very cooperative, whereas 17 out of 24 of the Teacher Interns felt the Principal of the experimental School #307 was not cooperative at all or only a little cooperative. Apparently the Teacher Interns didn't consider their Principal to be particularly sympathetic to the Trainable Mentally Retarded Staff Deployment Project. Incidentally, as indicated earlier, most of the Senior Teachers in School #307 didn't consider the Principal to be particularly cooperative towards the Trainable Staff Deployment Project either. In fact, Teacher Intern H remarked, "She was very narrow minded - not open to new and inventive ideas." Teacher Intern M stated that she "found the Principal to be the biggest downfall of the program. Aside from her prejudices she seemed to have a personality clash with anyone that she would come in contact with except a select few with whom she was socially involved outside of school."

An analysis of other statements in the Teacher Questionnaire for the experimental School#307 reveals that the Teacher Interns considered, as did their Senior Teachers, that the

Speech Therapy Teacher, the Music Teacher, the Physical Education Teacher, the Home Arts Teacher, and the Mathematics Teacher, all resource personnel to the Trainable Project, were of great help to them.

An analysis and evaluation of the Teacher Intern responses reveal that they felt instructional equipment, materials, and supplies were very adequate; that the in-service program was of great help to them; that the resource teachers in art, music, physical education, home arts, and speech therapy were of great help to them; that the parents of the trainable program only somewhat understood the program; but that the Principal was not particularly cooperative or sympathetic towards the Trainable Project; and that the Parent Liaison Services were not of much help to them. In the main, the Teacher Interns liked and felt comfortable about their teaching assignments in the Trainable Staff Deployment Project. Some typical Teacher Intern comments are as follows: Teacher Intern A wrote that "under the direction of my Senior Teacher, there was a definite growth in my learning how to motivate trainable students and provide them with interesting lessons. Senior Teachers were an important part in the successes I achieved as a Teacher." Teacher Intern B stated that "I was truly and really sorry the program ended. I knew my work. I learned to prepare and plan my work very well. ...The trainable children are very lovely to work with." Teacher Intern C declared that "the Senior Teachers were good workers and eager to help at all times - unless the Principal summoned them to perform another task which was very often. The Principal had the Senior Teachers do too much 'busywork' just so that she could assert her authority and show who was BOSS." Teacher Intern D felt that "the aides were efficient and worked well with the trainable children. The school was well equipped with instructional materials and supplies." Teacher Intern E indicated that "availability of equipment improved each year. ...The Senior Teachers have been helpful in guiding the direction of my lessons." Teacher Intern F wrote that "my experiences in working with trainable children was most successful. Trainable pupils in the project grew in self-help skills, had less discipline problems, grew in emotional control, and developed independence in many areas." From these remarks, it appears safe to draw the conclusion that both Teacher Interns and Senior Teachers enjoyed teaching in the Trainable Staff Deployment Project and regarded it as a pleasurable and successful experience.

The Development of Trainable Teaching Guides

One of the strengths of the Trainable Staff Deployment Project was the development of "Teacher Guides" for trainable children. From letters to the Research Division and Project Director and from questions asked by persons who paid site visits to the Project, of greatest interest was the Teaching Guides. Teacher Guides were developed cooperatively by a team which consisted of the Resource Teacher, Senior Teachers, and Teacher Interns. The guides were developed principally for persons who were serving in the role of Trainable Teachers but were not fully certified by State standards and moreover, lacked a college degree. Trainable Teaching Guides did not eliminate the need for Teacher Interns to plan learning activities for trainable pupils each day.

In the development of a Teachers Guide, the guide team first identified the skills that the trainable children needed in that particular area. All possible skills and the sequence in which they should probably be mastered were listed. The guide team paid attention to limitations possessed by trainable children in physical growth, emotional development, and intellectual capacity. When this was done, Resource personnel, Master Teachers, Teacher Interns, Project Director, and Area Superintendent for Special Education reviewed the skills and their ordered presentation sequence for practicality relevancy, and feasibility. This team suggested not only the activities which would develop and reinforce these skills but also indicated the instructional materials and equipment which could be utilized best with each learning activity. Each activity and the instructional materials and equipment suggested to be used for that activity were evaluated in terms of several important questions: (1) What specific skill does this activity help to develop in trainable children? (2) What teaching techniques should be utilized for this activity? (3) What materials and instructional equipment can be utilized best with this learning activity? and (4) What evaluative tests can be utilized best to assess the degree to which each trainable child has learned the basic skills being taught him?

The following Teacher Guides were developed: (1) Pupil Arrival Time Trainable Program; (2) Arts and Crafts Trainable Program; (3) Arithmetic Guide Trainable Program; (4) Home Arts Trainable Program; and (5) Communications Skills Trainable Program. These guides appear unabridged in the Appendix.

An analysis and evaluation of the Teachers Guides leads the authors to consider their development as a high point of the Trainable Staff Deployment Project. The Teacher Guides served the Teacher Interns particularly well and they so stated in their responses to the Teacher Questionnaire survey.

The Trainable Program Instructional

At the outset of the Trainable Mentally Retarded Staff Deployment Project, the Area Superintendent for Special Education stressed the need for careful, relevant, daily program planning. He stated in the Orientation Program that the two-fold purpose for planning the daily program of activities for trainable children was as follows:

(1) to develop a structure for the trainable program; and (2) to develop an ordered sequence of learning activities for trainable children. Because of the relatively short attention span of the trainable child and because of his relative lack of concerted concentration, learning activities had to be balanced between periods of overt behavior and calm activities. This balance was deemed an absolute necessity if the trainable child was to develop properly emotionally, socially, physically, and intellectually.

ORDER OF LEARNING ACTIVITIES IN THE TRAINABLE DAILY PROGRAM

In developing the order of learning activities for the trainable daily program, the Master Teacher and Teacher Intern studied the following important factors about the trainable children: (1) chronological ages; (2) mental ages; (3) socio-economic levels; (4) attention spans; (5) energy levels of children; and (6) any other specific strengths and weaknesses of the children as gleaned from personal health and cumulative reports. These were the basic data which the Master Teachers and Teacher Interns used to develop the ordered sequence of learning activities in each trainable class in the experimental school in which the Trainable Staff Deployment Project operated. Of course, the ordered sequence of learning activities for a particular class of trainable children could not be developed in a single day or a single week. Typically several weeks of tests and try-outs passed by before an ordered sequence of learning activities applicable to a particular class of trainable children was developed. Even then, this schedule had to be departed from if in the Teacher Intern's judgment, the general mood of the trainable children that morning warranted such a departure. Thus, the opening daily exercises or orientation activities were utilized by the Teacher Interns for ascertaining the type of learning activities for which the pupils were ready that day. Thus, the trainable teacher used the "pupil arrival times" as excellent opportunities to select the order of learning activities for that day. It was at this time that the training of teachers as observers and guides of pupils paid off. Because of the nature of trainable children, intense learning periods had to be balanced by quiet learning periods. Moreover, teachers generally tried several different daily learning schedules until the optimum one was finally discovered.

Once this optimum daily schedule was determined, the teacher tried not to depart from it without good and sufficient cause. The maintenance of an established schedule provided for consistent, methodical, and efficient use of school time. Trainable children ordinarily love a consistent learning schedule. Trainable children cannot readily adapt to radical changes in an ordered sequence of learning activities. They become quickly upset at radical, abrupt changes in learning routines. Adherence to an ordered sequence of learning activities enables trainable children to plan ahead properly. They develop self control and confidence in their ability to function in a social environment. They progress in an orderly manner towards the skills that are the main objectives of their learning program.

Program variety was achieved through instructional techniques and teaching procedures, learning activities and instructional materials and equipment. Program variety was necessary because of the great need to repeat learning activities before the trainable child actually learned and retained what was expected. Program variety then presented the trainable teachers with a great challenge. Day in and day out, trainable teachers were continually confronted with this challenge to provide repetitive learning experiences that were interesting and varied. The inservice training programs were utilized as the opportunity for Master Teachers to demonstrate to Teacher Interns how to promote pupil interest and growth through program variety. An analysis and evaluation of the actual learning activities used and their ordered sequence indicates that the Trainable Staff Deployment Project was successful in training Teacher Interns to become efficient, effective observers and guides of trainable pupil learning. Both Teacher Interns and Master Teachers so indicated in their responses to a question on this topic.

Trainable Program Content. The paragraphs which follow describe the typical trainable child's school day. The Trainable Staff Deployment Project was instrumental in developing program content which was relevant, meaningful, and interesting for the trainable. The authors already outlined under an appropriate management objective (Table 3.1), time allottments and broad program content categories. For the purpose of analysis and evaluation, the program content will be discussed in greater detail but not in the great detail and scope as that covered in the Teachers Guides appearing in the Appendix.

Pupil Arrival Time Activities. All pupils in the Trainable Staff Deployment Project were bussed into School #307. Pupils typically arrived about 8:45 a.m. Teacher Interns used this pupil arrival time for a number of different purposes. Specific purposes are minutely detailed in the "Pupil Arrival Time" Teachers Guide (See Appendix). Teacher Interns greeted their pupils as they arrived and helped them take off their wraps, if such help was needed, and made sure that their pupils placed their wraps properly in designated places. The pupils had arranged special duties for each other and sometimes several pupils together had responsibility for such tasks as the following: (1) water flowers; (2) raise windows and shades; (3) feed fish; (4) dust the room, particularly desks; (5) clean erasers; and (6) assemble instructional materials and equipment to be used for the morning's learning activities. If all assigned responsibilities were completed, the pupils engaged in whatever free activities they set their hearts on that morning.

Opening Exercises - Orientation Activities. Opening exercises or orientation activities usually began about 9:00 a.m. Pupils usually arranged themselves in a circle or semi-circle. These opening activities generally centered about patriotic activities. The pupils usually opened their formal school day by saluting the United States Flag and reciting the pledge of allegiance. Pupils then sang a patriotic song or a song which instilled in themselves pride and patriotism. Next followed the taking and recording of pupil attendance. The opening exercises usually terminated by having the children discuss any experiences they thought would be of interest to the class that they had had on the way home from school yesterday, at home, or on the way to school that morning. The Teacher Intern also took a few minutes to discuss with her pupils the schedule of learning activities for that day. The purpose of this was to mitigate any upsetting surprise for the trainable child.

Health, Safety, and Science Activities. The next ordered sequence of learning activities centered about health, safety, and attitudes. The Teacher Intern inspected the children's face, neck, hands, nails, and shoes stressing, of course, the need for cleanliness and good health habits. At this time learning activities revolved around such health habits as the following: (1) toilet habits; (2) washing and bathing; (3) eating; (4) proper rest periods and sleep; and (5) personal grooming. Teacher Interns stressed the importance of good personal grooming by demonstrating how to take care of clothes properly, what processes were involved in dressing, how to choose clothes for warmth, protection and decor, and how to take care of hair, fingernails, etc. Teacher Interns also included at this time activities which involved safety habits, and in particular school safety habits, home safety habits, and bus safety habits. Science activities were ususally scheduled along with health and safety activities. Unfortunately no Teachers Guides were developed for health, safety, and Science. The basic objectives of the health, safety and science programs could be condensed as follows: (1) Safety Habits to improve the safety consciousness of trainable pupils, to acquaint children with factors which endanger their safety, and to promote an interest in trainable children to work for safe and sound learning and working conditions; (2) Health Habits - to improve personal grooming, to interest children in their physical well-being through proper health habits; (3) Science - to acquaint children with the world about them; to demonstrate to children some of the physical secrets of nature in a scientific manner to have the children learn some of the fundamental facts about plants, animals, and natural phenomena. Of importance to health and safety are the development of sound mental and emotional attitudes. Thus, the Teacher Interns included learning activities which demonstrated good manners, consideration for others, recognition of physical and mental limitations in others, and respect for authority and responsibility.

Communication Skills and Language Arts Activities. Teacher Interns devoted the next block of time to communication skills. The time allotted to these learning activities was about thirty minutes. The Speech Therapist functioned as an important member of the language arts (communication skills) team. The Speech Therapist worked at least three times a week with children who had severe disorders of articulation, language impairment, stuttering and voice disorders. In addition, the Speech Therapist conducted language development demonstrations for the Teacher Interns once a week. The Speech Therapists distributed to the Teacher Interns "carry over" sheets which contained exercises, use of devices, and interesting ideas that the Interns could use to improve the communicative skills of the trainable children. Every other week, the Speech Therapist met with the Teacher Interns to: (1) evaluate the effectiveness of the learning activities which the Teacher Interns had utilized from the "carry over" sheets for language arts development; (2) explain techniques and procedures which the Speech Therapist had demonstrated; (3) assess the language needs (deficits or strengths) of the trainable pupils; and (4) plan ways in which the language and speech lessons could be totally integrated not only with the language arts program but into other subject matter areas as well.

The specific aims of the speech therapy program were:

(1) To integrate information through sensory means into an experimental pattern in order that the environment may be better structured and understood;

(2) To perceive relationships through classifying and making generalizations;

(3) To extend comprehension of data through vocabulary development;

(4) To articulate correctly the single elements of speech and to produce simple and compound words;

and

(5) To learn and use appropriate and adequate syntactical and grammatical speech patterns.

The Speech Therapist and Teacher Interns developed a Communications Teacher Guide which contained skills and suggested activities for the trainable language arts program. This guide appears in the Appendix.

Some of the objectives of the trainable language arts program are: (1) to provide trainable pupils with the means to express themselves; (2) to develop in pupils self confidence; (3) to improve the speech patterns and habits of trainable children; (4) to develop in pupils the facility to discriminate between language differences and similarities; and (5) to develop in trainable children a vocabulary flexible in scope and adequate in magnitude for their daily word needs. So that trainable children could attain these objectives, learning activities were developed to provide experiences in (1) oral language; (2) written language; and (3) reading.

Oral language learning activities for trainable pupils involved: (1) pupils telling stories in class to their peers; (2) pupils engaged in a dramatic play, acting out their roles before the class; (3) pupils given opportunities to relate their experiences; (4) pupils experiencing choral speaking activities; (5) pupils reciting poems and rhymes; and (6) pupils encouraged to express themselves orally whenever opportunities exist.

Written language learning activities involved giving trainable pupils experiences in (1) writing their names, home addresses, and telephone numbers; (2) learning to spell simple words and writing them down; (3) participating in appropriate experience chart activities.

Listening language learning activities involved the development of auditory discrimination in trainable children through experiences in (1) hearing oral directions to get somewhere; (2) listen to simple stories and to be able to recall selected facts; (3) listening and looking at audio-visual devices in order to recall certain information; and (4) listening to a variety of sounds, human speech, bird calls, etc., and learning to distinguish the various sounds.

The reading program was divided into two phases: (1) A readiness phase; and (2) an actual reading phase. The purpose of the reading readiness phase was to determine at what level trainables could read and comprehend. The readiness phase was carefully controlled and designed to meet the specific reading needs of individual trainable pupils. The reading readiness phase was accomplished through Teacher

Interns discussing stories with trainable pupils, recording their accounts of the stories, using reading experience charts, and having children read very simple class booklets of classical stories. The actual reading program then covered functional and protective reading activities.

Music Activities. The objectives of the trainable music program were to: (1) stimulate pupil enjoyment and appreciation of all music forms; (2) develop in pupils a correct sense of rhythm, time, and tone; (3) develop through dance activities better coordination of large and small muscles in the trainable pupil; (4) provide soothing musical experiences so as to reduce emotional anxieties; and (5) to promote musical activities as a lifelong hobby. For those trainable children who possessed the innate ability, lessons were provided in learning how to play a musical instrument. The objectives of the trainable children were to be accomplished through such activities as listening to music on the radio or phonograph, rote singing, rhythm exercises, dancing, rhythm bands, simple musical instruments (xylophone, drum, horns, zither), creating simple original songs, and other appropriate musical activities.

Pre-Vocational Skill Activities. The objectives of the trainable home arts and handcraft or pre-vocational skills program were to: (1) provide vocational experiences to develop muscular coordination; (2) provide experiences which would develop vocational hobbies; (3) utilize vocational experiences for their therapeutic values; and (4) provide opportunities for trainable children to learn certain vocational skills which would enable them to operate successfully in a sheltered workshop. The learning activities utilized by the Teacher Interns to provide experiences in pre-vocational skills are (1) finger painting; (2) weaving; (3) paper mache; (4) clay sculpture; (5) simple woodworking; (6) simple sewing activities; (7) crayon, chalk, and painting activities; and (8) construction of simple models. Detailed learning activities for the vocational education program are listed in the Teachers Guide for the Home Arts Trainable Program which appears in the Appendix.

Food Service Activities. Each child in the Trainable Staff Deployment Project at School #307 was provided with a free lunch. The reason free meals were provided trainable children was not nutritional but instructional. The lunch period was not programmed as a free activity but as an integral part of the instructional period. Through the serving of lunches, the following objectives were to be achieved: (1) knowledge of nutritional value of foods; (2) preparation of foods; (3) identification and proper utilization of kitchen utensils, tools, cooking equipment, etc.; (4) encouragement to pupils to eat a variety of interesting foods; (5) demonstration of correct and proper table manners; (6) identification of various dining utensils, their names and uses; and (7) understand and practice safety rules for food preparation such as sharp knives, hot dishes, hot stoves, and electric blenders and toasters. The Teacher Interns were responsible for planning the food service learning activities to achieve these objectives. They received able assistance from the Master Teachers. The aides who worked with the Teacher Interns were responsible for serving the noon meals. The lunch period then was in reality an instructional period for trainable children in that food service skills and knowledge were imparted. Detailed food service learning activities were listed in the Teachers Guide for the Home Arts Trainable Program appearing in the Appendix.

Number Activities. All children continually face situations in life which involve the concepts of the fundamental arithmetic processes of addition, subtraction, multiplication, and division. All children need to develop self-reliance in their capacity to handle number concepts accurately and competently. The instructional program for trainable children for the arithmetical processes provided first for mathematical readiness. The Teacher Intern utilized the readiness phase to determine mathematical ability and level of attainment of trainable children. The Teacher Intern then proceeded in the next phase to plan for a wide variety of learning experiences in the arithmetical processes so that trainable children would learn these processes. Detailed learning activities were listed in the Teachers Guide for the Arithmetic Trainable Program which appears in the Appendix. Some of these arithmetical learning activities are as follows: (1) building number concepts; (2) rote counting; (3)

recognizing numbers from 1 to 12 or more if ability permits; (4) recognizing different types of coins and their monetary values; (5) learning the value of time and how to read a clock; (6) developing an understanding of simple quantities and their interrelationships; (7) dramatizing life situations which employ number concepts such as going to a store and buying food and having to count the value of purchases and the change to be returned correctly; and (8) developing and understanding the processes of measurement.

Physical Education Activities. The objectives of the trainable physical education program are to: (1) develop muscular coordination; (2) promote good posture; (3) develop leadership qualities; (4) develop athletic skills for leisure time hobbies; (5) promote good sportsmanship; (6) promote attitudes of safety when participating in athletic events; (7) provide athletic opportunities for pupils to gain self-confidence in their ability to play well; and (8) to learn to take care of athletic equipment properly. Detailed learning activities to accomplish these objectives appear in the Teachers Guide for the Physical Education Trainable Program which appears in the Appendix. Some of the learning activities involved group and individual games such as ring games, rhythm exercise, free play, ball games, rope games, blocks, puzzles, pegs, bicycles, wagons, swings, and sliding boards.

Social Living Activities. The objectives of the social living trainable program were to: (1) provide a meaningful social living setting for integrated social activities; (2)

provide social living situations within the interests and capacities of trainable children to learn; (3) to provide experiences in home crafts activities utilizing various art media; (4) provide opportunities to learn civic and citizenship responsibilities; (5) to promote responsible work habits; and (6) to provide opportunities to learn the social living graces. Social living experiences are detailed in the Teachers Guide for the Home Arts Trainable Program which appears in the Appendix. Some social living learning activities involve operating a room, running a post office, cooking simple foods in a kitchen, cleaning a house, setting a dining room table, learning to eat properly, building room furniture, beautifying school rooms and grounds, and taking field trips and excursions which focus on social living activities in general.

Sense Training Activities. Not related to a particular curriculum, but nevertheless an important part of learning, are those activities involving the senses. Since all learning must occur through the stimulation of some sense organ, to develop sensory perception in trainable children is extremely important. Learning activities which include as many of the senses of sight, taste, touch, hearing, and smell as possible are most beneficial in developing sense discrimination.

Some experiences which are helpful in developing in trainable pupils the acute discrimination in the sense of taste are eating and testing foods and substances which exhibit the physical and chemical properties of sweet, sour, acid, salty, etc. Children should be encouraged to talk about their likes and dislikes re taste. Sense training in taste can be provided through planned activities in the lunch and cooking programs.

Some experiences which are helpful in developing the sense of touch in trainable children are those which discriminate the physical properties of soft, furry, hard, rough, smooth, sticky, oily, etc. Although experience charts can be made listing the physical properties of substances, the best way to provide relevant experiences is to actually have the trainable students touch substances and handle them.

There are, of course, innumerable experiences which are helpful in developing the sense of sound in trainable children. Sense training for sound or auditory discrimination can utilize recorded sounds and played back on phonographs or tape recorders. Actual sounds can be utilized by having students or teachers ring bells, scrape surfaces, play musical instruments, bang objects, or simply imitate sounds with the human voice.

The world about trainable children has endless opportunities to develop the senses of smell and sight. Children can learn to discriminate between pleasant and unpleasant smells by smelling flowers, foods, leathers, woods, plastics, inks, etc. They can learn to develop sight discrimination through observational experiences by noting nuances in objects colored red or green, objects varying in size, objects varying in slight details, etc. Because all that persons learn must come through sense stimuli, it is imperative that sense training be a part of the trainable child's educational curriculum.

The instructional day for the trainable child ends with what the trainable teachers call "closing activities." A structured, ordered sequence of closing activities is as important for the trainable child as is the structured, ordered sequence of opening activities. The trainable child should have his school day close on a happy, reassuring note. Individual lockers and desks should be made tidy and neat. The classroom equipment and furniture should be stored in their proper places. Children should learn to put on their wraps, get their personal belongings, walk to their bus and take their assigned seats. The trainable teachers should personally say goodbye to their students so that the children will look forward to returning to school the next day. This is the main objective of closing activities.

An analysis and evaluation of the trainable child's instructional program for the Trainable Staff Deployment Project reveals that the Teacher Interns, Senior Teachers, and Project Resource Personnel developed a worthwhile, meaningful, relevant, ordered sequence of learning activities for the trainable child. These learning activities appear in detail in several selected Teachers Guides in the Appendix.

APPENDIX A

TEACHER'S GUIDE
FOR
ARITHMETIC
TRAINABLE PROGRAM

BALTIMORE CITY PUBLIC SCHOOLS

TEACHER'S GUIDE FOR ARITHMETIC TRAINABLE PROGRAM

INTRODUCTION

The subject matter in this guide has been arranged in a developmental sequence which seems logical in the training of the Trainable Mentally Retarded Child. The content consists of the following elements: numeration, measurements, operations, fractional parts, and geometrical concepts. Under each item are listed the particular skills to be developed and teaching suggestions for each one.

GENERAL TECHNIQUES

Discover the success level of each child and build from there.

Keep the abilities of your class in mind when planning.

Utilize situations familiar to your class.

Build your lessons systematically and sequentially.

Relate each new idea to previously developed ideas.

Provide recurring but varied contacts with each skill.

Provide concrete, manipulative and visual materials as an aid to learning.

Present each new concept in a concrete situation to build meanings and supply language.

Keep in mind incidental number is not accidental, it is a planned period.

MATERIALS AND EQUIPMENT

Counters

Allowing a child to handle and arrange counters and other manipulative devices is a fundamental means of teaching mathematical ideas.

The teacher may select from a great many free or inexpensive materials. These will prove especially useful in counting and grouping, and in illustrating number situations.

Counters have several purposes. Each child should have at least twenty counters of a kind for his own use. These may be sets of buttons, drinking straws, ice cream sticks or spoons, corn or other seeds, bottle tops or caps, checkers, crayons, plastic or cardboard disks, or clothespins.

For classroom demonstration, the teacher should use items easily seen by the children. Spools, beads, shells, blocks, paper plates, or paper cups are suitable.

Flannel Board

As a manipulative device, the felt board or flannel board is especially useful. Cutouts for use with the felt board can be made from felt scraps shaped to resemble rabbits, ducks, mittens, gingerbread boys, dogs, squares, circles, triangles, and rectangles. Cutouts can also be made from construction paper or illustrations from magazines, or catalogs. To the back of each glue a piece of felt, flannel, or sandpaper.

Numeral Cards

Cards showing the numerals 0 through 10 can be assembled by pasting large numerals from old calendars onto 4" by 6" cards made from poster board or similar material. The numerals can also be printed with a felt pen or a dark crayon. These cards may be used to match pictures of sets.

Domino-dot Cards

Cards displaying domino-dot patterns may be made from construction paper. The "dots" can be gummed labels, or squares or circles cut from paper in a contrasting color. Fold each sheet of construction paper in half crosswise and arrange the dots in the traditional pattern on each half. White dots show up well against black construction paper. Be sure to include cards that are half blank to represent zero.

Making a Store

One of the most useful devices, particularly in teaching money problems, is the play store. Pupils have inevitably indulged in this activity at home, and will be ready to offer assistance in preparing the materials for this experience.

Plaster Cast of Number Symbols

Pour plaster of paris paste into a cake tin approximately 11" by 7" by 1½". As the paste sets, trace in it the number symbols with an unsharpened pencil. Retrace the symbols continuously until the paste sets. This will give a plaster cast of the symbols, which a pupil can trace with a finger.

Sanded Number Symbols

Paint with mucilage or glue on cardboard, a large copy of the figure that is giving trouble. Sprinkle with fine sand while still wet. When dry, let the pupil trace the figure many times with his pointing finger, and immediately thereafter write the figure.

Shiny, Wet Number Symbols

Write on the board a row of the figures on which the pupil needs practice. Give the pupil a paper cup in which there is a little water. Have him dip his pointing finger into the water, and then trace with wet finger the figures you have written. While the figures are still wet and shiny, let him copy them with chalk in a row just below.

Pop Beads

Large-size beads that "pop" together without stringing are on sale at most variety stores. These beads are also useful in the study of addition and subtraction facts and in column addition.

A Clothespin Counter

A clothespin counter is made by snapping spring-type clothespins of different colors on a wire coat hanger.

Felt-Backed Coins

To prepare felt-backed coins, paste felt or blotter on the back of real or toy coins.

A Clothesline Calendar

On the first day of the month give each child a sheet torn from a small note pad. Have the children number off from 1 to 30 (or 31). Have each child write on the sheet of paper his number. Explain that each sheet of paper represents a day in the new month that is beginning today. Then let a committee of children arrange the sheets in sequence, and using a needle and heavy thread, string the papers. Hang the string of papers as a clothesline is hung. As each day passes, the appropriately numbered paper is torn from the line. When the last paper is taken down, a month has passed, and the children will have some idea of the length of time in a month.

Liquid Measure Containers

Provide quart, pint, and half-pint bottles, cans and cartons. Also provide a standard measuring cup and a drinking glass, each of which holds exactly one cup of liquid. Water, sand, or sawdust are all good materials to use for measuring.

Money Charts

Place on the chalk board charts like the ones shown here. Use them for oral and written practice.

Change from a Nickel

Cost	You Give	Your Change
1¢	a nickel	
4¢	a nickel	
3¢	a nickel	
2¢	a nickel	
5¢	a nickel	

Change from a Dime

Cost	You Give	Your Change
1¢	a dime	
3¢	a dime	
5¢	a dime	
7¢	a dime	
9¢	a dime	
10¢	a dime	
2¢	a dime	
4¢	a dime	
6¢	a dime	
8¢	a dime	

NUMERATION

Performance Objectives	Learning Activities
	TREAT COUNTING AS A FUN ACTIVITY
A. To know the number names for counting (through twelve and beyond)	-Give children an opportunity to see, touch, move objects during the first number experiences in manipulating such objects as buttons, spools, toy cars, checkers, counters, etc. -Tap child's hand with each count -Clap, stamp with each count -Walk stairs, counting off -March in place
B. To become familiar with proper sequence in counting (rote)	-Use counting games -Sing songs containing counting (rote) -Say rhymes, poems and do finger plays involving counting "Ten Little Indians," "One two, buckle my shoe," "One potato, Two potato," "Fairy's Word," "Mother Hen."
C. To become familiar with the proper sequence in counting (rational)	-Have children point one by one to objects in a group as they say the number names in order -Count plants -Count children for games, attendance, and other activities -Count beats of the drum -Count objects such as pennies, blocks, pegs, etc. -Count materials for class -Count chairs for seating
D. To develop the concept that in counting there is a one to one correspondence between the number name and the object counted	-Have children match one object to a related object (counting is not involved) -Match children to chairs -Match crayons to children -Match circles to triangles to form ice cream cones
E. To recognize 2, 3, 4, etc. objects without counting	-Give children many opportunities to handle materials, "Bring the box with three blocks."
F. To recognize number symbols through 12 (or beyond as needs indicate)	-Play "Old Maid" type game -Sort all like symbols from a group -Associate symbols with objects -Play lotto-Bingo type games -Match like numbers - recognize symbols in clock and calendar activities

NUMERATION (continued)

Performance Objectives	Learning Activities
G. To know own age, address, telephone number, and zip code number	-Recognize address, telephone and zip code number -Use play telephone to dial telephone number
H. To count forward by ones to find how many in a group	-Use counting in numerous activities -Count the plants in a room -Count cartons of milk, cookies -Count beats of a drum, sticks, cymbals -Count objects in pictures -Count pupils who are absent and present -Count buttons on clothes -Make dotograph
I. To count by 2's to 12 (or beyond as needs indicate)	-Recognizes 2's in parts of body (two eyes, hands, feet, ears, etc.) -Count children for attendance -Count materials for class -Count chairs and other classroom objects
J. To count by 5's to 25 (or beyond, etc.)	-Count children for attendance -Count materials for class -Count chairs and other classroom objects -Count pennies and nickels
K. To count by 10's to 100	-Count objects such as pegs, colored squares of construction -Count pennies or dimes -Count and circle off groups of objects in pictures
L. To write the digits easily with understanding	-Make sure children understand the meaning of numbers before writing them -Teach children to write numbers as soon as they have a need to write them -Teach children to form digits correctly -Before children write the digits, provide many experiences such as: Make several large figures on the chalkboard Have the children form the figures in the air with the pointing finger Use kinesthetic patterns--having children trace numerals with finger in sand (using a template) or on sandpaper to feel the correct outline of numerals -Write classroom-school numerals -Write scores for the game -Record number of objects for distribution -Record dates and attendance -Record numeral for number of objects counted

NUMERATION (continued)

Performance Objectives	Learning Activities
M. To read and write numerals (2 place and beyond) as needed	-Read and write clothes size
	-Read and write pages in book
	-Read and write age
	-Read and write house number
	-Read and write price tags
	-Read and write scores of a game
	-Read and write school numbers
	-Read and write telephone number
	-Read and write social security number

MEASUREMENT

Performance Objectives

A. To use words that express comparison in functional situations

1. Develop and have the children use the following vocabulary in discussions and experiences

   a. Size

      big-little
      large-small
      short-long
      too big-not big enough

Learning Activities

Size
big-little

- -Point out things that are under ordinary circumstances big and little (gross similarities)
- -Use stories that illustrate the descriptive meaning of words
- -Pantomime big animals and little animals
- -Guide children to follow directions and find pictures of big and little things
- -Match big to big; little to little (use simple objects with gross differences in sizes)
- -Find and describe big and little objects
- -Sort pictures of things that are ordinarily described as big or little
- -Trace things that are big and little in response to directions
- -Name things that are big and little
- -Identify the big and little items from a group of objects
- -Use guessing games such as "I am big. I am red. I have a loud siren" (Fire engine)

large-small

- -Have child describe differences in size of objects (gross differences)
- -Use pictures illustrating large and small things (child oriented)
- -Have child draw large and small objects
- -Compare large and small objects
- -Use words correctly and frequently in conversation
- -Use charts showing large and small objects
- -Match children to desks
- -Estimating sizes of pieces of paper or wood for use
- -Make (construct, draw, etc.) something large and small, compare

short-long

- -Show differences in 2 strings, 2 ribbons, 2 ropes, 2 belts, 2 pencils, 2 sticks
- -Draw a long or short line
- -Use chart to show long and short things
- -Use stories that illustrate long and short

MEASUREMENT (continued)

Performance Objectives	Learning Activities
	-Find and describe long and short objects (This is a long stick) -Use pictures of things that are ordinarily long or short--sort -Measure to find out what is short or long -Cut thread, yearn, paper, etc., in short or long pieces -Find the short and long objects from a group of objects
	too big-not big enough
	-Compare clothing sizes -Find the object that is too big to fit in a designated container -Find the chair that is not big enough to fit a particular child -Try on gloves, shoes, socks, etc. to find out whether or not they are too big or not big enough
b. Weight	Weight
heavy-light	heavy-light
	-Discuss the use of a scale as an instrument for measuring and types of scales used at home, school, stores, are represented -Weigh items that are heavy and light -Use stories (descriptive) that describe weight -Make judgements by handling things that are heavy and light -Discuss and show the type of scales used to weigh various items
c. Liquid Measure	Liquid Measure
full-empty quart-pint pint-½ pint cup-glass pitcher-pail -bucket-jar	full-empty
	-Compare full and empty containers (bowls, boxes, bottles, etc.) -Select the full and empty container from a group (Example--find the full container from a group of empty containers and vice-versa)

MEASUREMENT (continued)

Performance Objectives	Learning Activities
	quart-pint -Discuss shape and type of container (plastic, glass, and cardboard) -Compare quart and pint containers -Fill containers to discover how much they hold -Measure water for an aquarium -Measure water for coolade, lemonade, etc. -Develop concepts that two pints equal one quart; a pint is less than a quart, a quart is more than a pint, a quart is the same amount as two pints, and a pint is one-half of a quart pint-½ pint -Identify items bought in pint and ½ pint -Match containers -Measure pint and ½ pint liquid with measuring cup cup-pint -Discover how many cups are in a pint -Provide opportunities to use cups and pints of measure in situations where the child is aware of the need for measurement -Match containers--cup to cup; pint to pint -Identify items bought in these containers cup-glass -Identify various kinds of cups and glasses -Discuss types of drinks served in each -Serve drinks in cups and glasses -Select a cup from a group of glasses and vice-versa

MEASUREMENT (continued)

Performance Objectives	Learning Activities
	pitcher-pail -Discuss sizes and shapes of each -Familiarize child with everyday use of each
d. Location left-right high-low back-front next to before-behind above-below top-middle-bottom far-near over-under inside-outside	Location left-right -Familiarize child with use of right hand for Pledge to flag and shaking hands -Play games which would utilize the right or left side of the body -Use singing games to familiarize child with left or right -Match gloves, mittens, shoes to right and left hand or foot -Trace left and right hand -Relate to traffic signs such as "left turn," "Keep to the right" high-low -Use concrete objects to develop the concept -Use pictures that clearly depict things that are high and low for comparison -Have child select from a group of objects things that are high and low -Provide opportunities for conversational use of these terms -Sing songs with lyrics using these terms in a meaningful way -Have children place objects on high or low shelf according to directions -Have children climb high and low on a jungle gym -Have children utilize body movements to demonstrate high or low back-front -Use children themselves and concrete materials in developing these terms (let children touch the front of their body, stand in front/back of chair, etc.)

MEASUREMENT (continued)

Performance Objectives

Learning Activities

next to

- -Have children stand next to a designated object
- -Have children place one object next to another
- -Have children draw one object next to another
- -Have children find the object that is next to a designated one
- -Use pictures that clearly depict objects next to objects

before-behind

- -Children are instructed to place objects and position themselves as directed by teacher; for example, "Put the blue block before the red block," "Stand before or behind another child"

above-below

- -Have children place objects above or below
- -Have children draw one object above or below another
- -Have children hold one object above or below another

top-middle-bottom

- -Use shelves, steps and other situations that require a top, middle, or bottom placement
- -Have children store objects in top, middle, or bottom drawers or shelves
- -Have children draw objects on top, middle or bottom space on paper or board

far-near

- -Have children find the object that is far or near from a designated object or point
- -Have children identify things in the room that are far or near
- -Make comparisons by walking the distance involved

MEASUREMENT (continued)

Performance Objectives	Learning Activities
	over-under
	(Use above suggestions to develop concept)
	inside-outside
	(Use above suggestions to develop concept
e. Time	Time
night-day fast-slow morning-noon -afternoon yesterday-today-tomorrow time to start-time to stop early-late -on time	night-day -Discussion of the child's activities during night and day -Reading stories which illustrate day-night activities -Pantomiming day-night activities -Use pictures to illustrate day-night activities -Sort pictures that depict day/night activities -Build picture stories with children of things they do throughout the day and night -Oral discussions of things we see during day/night
	fast-slow -Have children run fast, walk slow to understand that one way takes more time than the other -Familiarize children with animals that move fast or slow (rabbit, squirrel etc., fast; elephant, turtle, etc., slow; and thereby take more or less time to move
	morning-noon-afternoon -Illustrate things that are done in morning/noon/afternoon -Have children identify objects used in morning/noon/afternoon activities -Discuss TV shows that come on in morning/noon/afternoon -Have children sort pictures that depict morning/noon/afternoon activities -Make frequent reference to things planned in the morning/noon/afternoon

MEASUREMENT (continued)

Performance Objectives	Learning Activities
	yesterday-today-tomorrow
	-Use pictures to illustrate activities done yesterday, today, and one that will be done tomorrow -Have children recall experiences from yesterday and plan experiences for today and tomorrow -Use days of week in morning calendar activities -Record an activity done yesterday and play it back today and make plans to use it tomorrow
	time to sart-time to stop
	-Use signals and symbols that mean stop (sign, lights, bells, etc.) -Use terms in daily routines
	early-late-on time
	-Record an activity early in the day and play it back late in the day -Compare times that children take medicine--early, late, on time -Identify going to bed early, late, on time through pictures and stories -Identify TV shows that come on early and late -Use an alarm clock to illustrate getting up on time
f. Temperature	Temperature
hot-cold warm-cool	hot-cold
	-Give the children an awareness of temperature differences; the teacher presents moderately hot and cold tin cups to match; later to find one from the other in response to direction; and finally to describe them either as hot or cold
	warm-cool
	-Follow suggestions given above for hot-cold

MEASUREMENT (continued)

Performance Objectives	Learning Activities
g. Quantity	Quantity
more-less many-few some-none pairs enough-not enough-too much whole-half	many-few -Use pictures to intoduce the terms -Use concrete objects to show many-few -Use pictures that show many-few -Have child arrange groups of many-few objects (sticks, blocks, etc.). The child compares these groups without counting and is guided to show judgement -Use blackboard to illustrate the terms many and few some-none -Have children drink from full cups until some is left and none is left -Have children compare cups filled with some liquid and none -Have children take objects from a group until none is left pairs -Identify things worn by the pair -Identify things bought by the pair -Have child select articles bought or worn in pairs from concrete objects and pictures in catalogs, etc. enough-not enough-too much -Help child prepare appropriate amounts of food as for party, lunch etc. -Have child fill containers accordingly and compare enough-not enough -Purchase enough, not enough groceries for a designated group of people -Have child select a group of objects to find if there are enough, not enough, or too many

MEASUREMENT (continued)

Performance Objectives	Learning Activities
	whole-half
	-Make halves from a whole piece of fruit -Divide class chairs, desks, students, etc. into 2 groups (half) -Compare containers full and half full -Make whole and half portions of food, cloth, water, paper, etc.
B. To use standard units of measures as needed	
1. Develop and have the children use accurate measurement in the following areas	
a. Liquid and Dry	Liquid and Dry
quart-pint quart-cup cup-pint pint-half pint cup-half pint tablespoon-teaspoon dozen-half dozen pound-half pound	-Help children compare more precisely -Have a supply of containers and pour from one container to another so that the child develops a concept of standard measures -Use classroom experiences and activities to familiarize the child with standard units of measure (examples: play store, measuring ingredients called for in simple recipe etc.)
b. Linear	Linear
yard-foot foot-inch	-Provide rulers, yardsticks and tape measures to help child discover standard linear measures -Have children give lengths accurately in inches, feet, yards -Have children measure objects in room
C. To build and use a calendar for functional activities	Calendar -Have children note the month on the calendar

MEASUREMENT (continued)

Performance Objectives	Learning Activities
	-Have children fill in the month and year on the calendar -Have children fill in the numbers on the calendar from day to day (starting on the first day of the month, helps build the concept of the length of a month) -Have children note carefully on what day of the week the month starts. Sundays may all be in red to help.
D. To recognize the position of the hands on a clock as related to daily activities	Time -Choose some situations that are familiar to the children that begin on the hour. Example: time of meal, arrival time, departure time, time of a favorite TV program
E. To tell time by the hour	-Make a clock poster to illustrate above mentioned situations -Give individual practice in changing the hands on the clock
F. To tell time by the half of an hour.	-Set the clock to show different hours and ask children to act out what they might be doing at that time (be sure to indicate whether it is day or night) -Discuss aspects of telling time (such as being on time for bus, keeping appointments, schedule for classes etc.) -Make clock faces from paper plates -Give children practice in setting time on individual clocks (hour and half hour)
G. To tell time by the quarter hour	-Keep a simple time table (in ¼ hours)of activities -Have children express and set clocks for 12:45, 4:15, etc.
H. To tell time by the five minute intervals	-Have children express and set clocks for 11:05, 11:55, etc.
I. To recognize the thermometer as a device for measuring temperature	Temperature -Familiarize children with the markings of standard themometer -Check differences in indoor and outdoor temperature (compare) -Record temperature on a chart-check progress of temperature

MEASUREMENT (continued)

Performance Objectives	Learning Activities
J. To recognize that U.S. coins have the same shape	Money -Use real coins to show the shape
K. To recognize that U.S. coins have different names	-Familiarize children with names and markings of different coins
L. To determine the value of different coins	-Familiarize children with the value of each coin -Make a coin chart by taping coins to tagboard
M. To recognize how people receive change when purchasing items in different coins	-Have children buy at class store and receive change
N. To recognize and use: penny, nickel, dime, quarter, half dollar, dollar	-Use coins to buy objects at play store -Match appropriate coins to correct price tags. -Show that a given amount of money may be spent in different ways (6¢ can buy 6 1¢ items or 2 3¢ items, etc.) -Utilize coins in addition and subtraction concepts. (As needed in buying several items and receiving change)
O. To see that the same value may be reached by putting together different coins	-Have each child "bank" combinations of 10¢, for example: 1 child will put 2 nickels in bank to save 10¢ 1 child will put 5 pennies + 1 nickel to save 10¢ 1 child will put 1 dime to save 10¢, etc.
P. To read and write prices and become familiar with the use of money in daily activities	-Have each child experience buying an item of the same value with different coin combinations -Have children buy and sell at play store -Pay for rides in taxi, bus, train, amusement parks, etc. in "Let's Pretend" games

OPERATIONS

Performance Objectives	Learning Activities
A. To explore through experience, putting things together	-Familiarize children with the concepts by using concrete objects -Have children use appropriate vocabulary (more, more than and add)
B. To arrange like objects into groups	-Have children arrange objects on flannel board to illustrate a story, such as "There were 2 boys; 2 more came to play." -Have children study picture in order to count the birds on the ground and the birds in the whole picture
C. To explore by experience, taking things away	Give children experience in: -Separating things to find how many are left as counting milk cartons to find how many are left after the class is served -Separating a large group into 2 smaller groups as putting 3 of the 5 plants on the table and 2 on the window sill.
D. To put groups of like objects together and to find the size of the new group	Before this, child should be able to: 1. Count object in a group 2. Recognize groups 3. Associate the symbols with the size of the group Give many experiences in putting things together: 1. Actual objects 2. Pictured objects 3. Semi-concrete material such as dots, lines, crosses 4. Abstract number symbols
E. To count and find out how many	-Count children present and absent -Count materials used in an activity -Count buttons, pegs, straws, beads, blocks -Count items in picture -Provide opportunities for children to use "Put Together" stories in the following order:

OPERATIONS (continued)

Performance Objectives	Learning Activities
	1. concrete objects 2. pictured objects 3. semi-concrete 4. abstract number symbols
F. To discover addition facts with sums up to 10	-Totaling the number of boys, girls present -Telling story problem situations -Use counters and other concrete materials to show number facts 000+0 = 0000 3+1 = 4 $\begin{array}{r} 3 \\ +1 \\ \hline 4 \end{array}$ $\begin{array}{r} 0 \\ +000 \\ \hline 0000 \end{array}$ addition is always in left-right progression
G. To use both vertical and horizontal form in addition	- 1+1 = 2 $\begin{array}{r} 1 \\ +1 \\ \hline 2 \end{array}$ $\begin{array}{r} 0 \\ +0 \\ \hline 00 \end{array}$ 0+0 = 00
H. To use the (+) and (-) signs with meaning	-Teach that (+) tells us to put together (add). The minus signs (-) tells us to take away a smaller group (subtract) -Use familiar situation for number stories using + and - signs
I. To use with understanding the mathematical vocabulary involved in putting groups together and taking 1 group from another	-Introduce and teach signs used to put groups of objects together and take part of a group away -Provide opportunities for child to hear-use number signs -Record number stories on the blackboard or flannel board -Teach that plus (+) tells us to put groups together (add) the minus (-) sign tells us to take away a smaller group from a large group. -Use familiar situations for number stories using the (+) and (-) signs
J. To group combinations into sets or families	-Add all combinations of 3, 4, 5 and as needed. (1+2 = 3, 3+0 = 3, 1+1+1 = 3) -Color code each set of a combination (8 red balls + 1 blue ball = 9 balls) -Size code each set of a combination (8 tall pencils + 1 short pencil = 9 pencils)

OPERATIONS (continued)

Performance Objectives	Learning Activities
K. To see that sums are the same when the order of the addends are reversed	- 1+2 = 3 2+1 = 3
L. To use the addition facts with facility	-Total number of boys and girls present -Total number of red and white stripes on flag -Promote use of algorithms by telling stories with concrete objects requiring use of number facts: (2+3 = , 3+2 =) -Assemble materials for group activities
M. To discover the meaning of subtraction (how many are left)	-Compare number of children absent and present -"Take away" a set of objects from a group to find how many are left -Tell number stories involving subtraction. Example "Johnny had 3 cookies. He gave 2 to his friend. How many did he have left?"
N. To discover subtraction	-A minuend is the 1st or top number in both forms of subtraction: $\begin{array}{r}2\\ \underline{-1}\end{array}$ 2-1 = -Use objects and symbols to discover how many are left in subtrahend after a portion is taken away from minuend (00-0 = 0) minuend -Use numerals and symbols combined in same process -Use numerals alone in same process
O. To use the subtraction facts with facility	-Provide opportunities for practice and drill

FRACTIONAL PARTS

Performance Objectives	Learning Activities
A. To divide larger objects into parts when necessary	-Divide concrete objects such as apples, cake, pie into parts
B. To divide large groups into smaller groups when necessary	-Divide or separate groups of concrete objects into parts -Divide symbol (circles, square) into parts
C. To recognize that one of two equal parts is one half	-Divide concrete materials as cookies, candy, fruit, pie plates, etc. -Fold paper in one half--coloring one half of an object -Tear or cut paper in one half -Cut fruit in one half -Cut small pie in one half -Cut sandwich in one half -Jingle, I have an apple, it's big and round It fell from the tree down to the ground Come! let me share my apple. Please do One half for me and one half for you.
D. To discover that two halves make a whole	-Color cardboard, egg cartons to show halves -Cut paper plates. Put the cut plate over the whole plate to show halves -Measure sand, flour, and liquids
E. To become familiar with the vocabulary related to the concept of ½ and ¼	Quarter -Divide material, paper, food, etc. into 4 equal parts More than ½-Less than ½ -Utilize addition-subtraction concepts to add or take away from ½ (using concrete objects of symbols) Full-empty, half full, nearly empty -Use containers such as buckets, cups, boxes, etc. to illustrate these concepts -Have children fill containers in stated amounts (using the above mentioned vocabulary)

FRACTIONAL PARTS (continued)

Performance Objectives	Learning Activities
	Too much
	-Use measuring cup to demonstrate amounts that are too much to meet the stated amounts (½ or ¼)
	Half-Almost half
	-Use pies, liquids, cloth, etc. to illustrate the comparison between half-almost half
	Bigger
	-To discover that ½ is bigger than ¼ by slicing pies, fruit, etc.
	Same-not the same/two parts
	-To compare 2 parts (½+¼) and discover that they are not the same -Compare 2 parts (½ and ¼) to a model ½ to find out which is the same as the model and which is not the same
	Share
	-To decide how much pie is needed to share equally between 2 people, 4 people (½ - ¼)
	Divide
	-To divide food, materials, etc. into designated proportions of ½ and ¼
	Two equal parts -Match equal parts of halves and quarters and compare
F. To recognize and use symbols ½ - ¼	-Provide opportunities for practice in daily activities

GEOMETRICAL CONCEPTS

Performance Objectives	Learning Activities
A. To recognize the differences in geometric shapes	-Use concrete objects or forms to introduce the terms circle, square and triangle -Have children match forms of square, circles and triangles -Use overhead projector to have children identify shapes -Give practice in matching pictured forms of the squares, circle, triangle, and rectangle -Find concrete objects that are similar in design -Show models such as cardboard shapes, blocks, balls, musical triangle -Use concrete objects with a flashlight Example, Flashlight and shine the light on the ball to cast a shadow on the wall -Use flash cards of the form for identification -Use the forms in art projects Example, Indian tepees from circles cut in half; trees from empty paper tubes, telephones from empty cans and string; sailboat (triangle), wagon (rectangle), ice cream cone (circle and triangle). People figures can be made from a combination circles, squares, rectangles and triangles.

APPENDIX B

TEACHER'S GUIDE
FOR
PUPIL ARRIVAL TIME
TRAINABLE PROGRAM

BALTIMORE CITY PUBLIC SCHOOLS

TEACHER'S GUIDE FOR PUPIL ARRIVAL TIME
TRAINABLE PROGRAM

INTRODUCTION

Pupil arrival time provides an excellent opportunity to develop routines and a sense of security. It is a time when children engage in an activity of their choice. These activities contribute to the child's awareness of himself and his environment. They provide a chance for him to relate to others and to interact in a positive way to peer relationships. These activities provide further for a time when the child can gain self-confidence and feelings of independence as he learns that there are occasions in school when he does just what he feels like doing, within the limits of the physical and peer-group environment. It must be remembered, however, that trainable children do not always engage spontaneously in a purposeful activity. They have to be taught to select and accept. Therefore, the teacher has to provide the necessary stimulation as well as the techniques.

GENERAL TECHNIQUES

Provide and present equipment, games and materials.

Lead children to accept an activity.

Observe individuals to note interest, capabilities, needs,behavior, peer relationship, and language patterns.

Instruct children in clean-up techniques.

Relate to a child who has a particular need.

Gather material for anecdotals.

Work with small group of children in relation to a particular need

Have the room ready when children arrive.

Make periodic changes in materials for pupil selection.

Allow children to move from one activity to another.

Have the children

- Engage in activities as suggested in this release
- Observe and care for class pets
- Look at books
- Listen to recorded stories or poems
- Work together in housekeeping area
- Talk to another child or to adults
- Complete any unfinished work
- Work with manipulative materials
- Use play equipment.

As you move in and out of the group, don't expect that all the act-it-out activities will engross all the children all the time. Some activities will interest some children only briefly; other activities will interest children completely. Often, there is a trainable child who will ignore play altogether. Begin to work with and observe this child carefully.

PUPIL ARRIVAL TIME

Performance Objectives	Learning Activities
Toy Telephone Play	Two telephones are needed for this activity. You or one child will ring a bell. The second child is expected to lift his receiver and say, "Hello." You then say, "Hello, this is _____. Who am I talking to?" The child gives his name and you continue. "How are you?" "What were you doing when I called?" "What is _____ doing?" "Please tell _____ to come to the phone." "Please tell _____ to hang up his coat."
Playing House	"Let's play house." You may set example by putting doll to bed. Then say "Now you be the Mommy. Tuck the dolly in her bed. Cover her up. Kiss her goodnight." Other suggestions: A tea party eating pretend food while engaging in polite conversation using "please," "thank you," and "I had a good time." Add new things to your house corner from time to time. Put away some things and reintroduce them later. an umbrella pair of shoes a purse first aid kit flashlight Let your imagination go!
Paper Carton	Tunnels are made by removing flaps and the bottom from a large cardboard carton. Let child crawl through. Let child make believe he's a train, a bird, a rabbit, a big bear. Child can make appropriate sounds e.g. "choo, choo," "peep, peep" as he crawls.
Fish Pond	Cut out a large number of paper fish. Color or paint them. Fasten a paper clip or bobby pin on each one. Put them in a large cardboard carton "fish pond." Tie a small magnet onto the end of a string. Tie the other

PUPIL ARRIVAL TIME (continued)

Performance Objectives	Learning Activities
	end of the string to a stick for a fish pole. Have the children take turns fishing. How many red ones, how many blue ones, how many yellow ones did each person get?
Beanbag on the Head	Place a beanbag on a child's head. Ask him to walk without touching it. Walk in time to music. He has to stand up straight to keep the beanbag on his head without touching it.
Clown Face	Remove the flaps from a cardboard carton. Turn it upside down. Draw a clown's face with a big mouth. have the child paint or color the picture. Suspend a small bell from the top of the carton so that it hangs directly opposite the mouth. Throw a beanbag into the open mouth. Try to ring the bell. If there are several players, take turns.
Clothespin Road	Show a child how to make a long road out of snap on clothespins by snapping one clothespin onto one of the open ends of another clothespin. Have him snap many clothespins together, and see the line on the floor or on a big table. When laid one way, they look like a very bumpy road. If laid another way, they become a smoother road. Make your fingers walk, walk over the road. Encourage the child to imitate you. Pretend that your fingers are a little dog that says, "Bow wow" as he runs. Or a cat that says "Meow, meow" or a big old cow that moves slowly and says "Moo, moo" or a little caterpillar that creeps, creeps, and doesn't say a thing. Let a child choose what animal he would like his fingers to be as they travel over the smooth road, or the bumpy road.
Clothespin Tracks	Help the child to lay snapped-together clothespins in parallel rows to form a railroad track.

PUPIL ARRIVAL TIME (continued)

Performance Objectives	Learning Activities
	Have him huff and puff and "choo choo" as his fingers move like a train over the tracks.
Little Boats in a Dishpan Sea	Make little paper boats like Soldier's Hat only much smaller, or make bottle-top boats. Place a boat in a large pan of water, like a dish pan. Encourage a child to blow the boat around the "Sea." Place two boats in the water next to each other. If two people are playing, stand on opposite sides of the pan. Place a boat in front of each player. See who can blow his boat across the pan, and at the same time keep the other boat from landing on his side of the pan.
Hammering	Use the Playskool Workbench Try to get a section of a tree trunk and stand it on end. Let child pound nails into it, anywhere, and pull out the nails with a claw hammer. Get a log and place it on its side, or a box made of soft wood placed bottom side up. Have the child hold the hammer near the head when he is learning. Start him with roofing nails and gradually increase the size of the nail head and increase the length of the nail as he becomes more experienced.
Pegs	Encourage the child to: 1. Complete the entire *board*. At first it may be necessary to a. Cover 1/2 of the holes b. Hand the child the pegs c. Give constant supervision 2. Ask child to complete *every* hole. Let him pick up pegs himself. Work without constant supervision. 3. Fill peg board with pegs then *put a bead over each peg*. 4. Build a fence, *just on the outside*. Take his finger and move it along the outside row of holes. (one color) *Add colors gradually*, one at a time.

PUPIL ARRIVAL TIME (continued)

Performance Objectives	Learning Activities
Working Puzzles	For beginners use wood-inlay Type with no more than 5-9 pieces. Look at the picture in the frame and talk about it. Empty the pieces on the table and ask child to put the puzzle together again. If he does not respond, put a piece in place saying "See." Take the piece out and say, "Now you do it." Guide his hand if necessary. Praise him for his efforts. Guide him in the understanding of a. Turn it over b. Move it around c. It won't fit d. Try it here e. It fits Homemade puzzle can be made by posting a colorful picture on a shirt cardboard. Cut it into large pieces. Cut on straight lines.
Conversation Time	Seat children in semi-circle as closely around you as possible. Follow procedure as outlined in Peabody Language Development Kit Levels "P," "I," "II." Exercises "Conversation Time" e.g. Level "P" p. 26, ex. 1, p. 28, ex. 1; p. 81, ex. 3.
Library Time	Have a library table or shelf containing various types of books--not just ones related to the unit. Children may read or picture read. If time permits one or two may tell about his book.
Story Time	Seat children in semi-circle as closely around as possible. Read or tell short interesting stories. Use visual aids.

APPENDIX C

TEACHER'S GUIDE
FOR
ARTS AND CRAFTS
TRAINABLE PROGRAM

BALTIMORE CITY PUBLIC SCHOOLS

TEACHER'S GUIDE FOR ARTS AND CRAFTS TRAINABLE PROGRAM

INTRODUCTION

Craft activities can serve a number of significant functions for the trainable child. Besides aiding in the development of the large and small muscles, they teach him skills which may be useful in the future. A craft may also have a social value, since a child may work on it with his classmates, or give the product to another person. It is important for his emotional well-being that he have the tangible evidence of the useful things he makes to prove to himself his value and ability to succeed.

Since the trainable child should be taught thoroughly, his craft activities ought to be carefully chosen. Major criteria for selecting them are:

1. The craft should be useful.
2. The craft should be simple enough to be learned with detailed instruction and practice.
3. A simple craft should at least be a step toward learning a more useful craft.
4. The craft should be of interest to the child.
5. Craft activities should be challenging.
6. Activities should help in the development of muscle skills.

GENERAL TECHNIQUES

All craft periods should serve as a medium for developing good work habits and good habits of cleaning up. These habits must be taught constantly, reinforced and strictly adhered to.

Suggested work rules:

1. Begin on signal.
2. Work quietly.
3. Share materials.
4. Know what you are to do.
5. Finish your project.
6. Stop on signal.
7. Obey safety rules.
8. Put things away in their proper places.

Suggested rules for clean up procedures are:

1. Care and storage of tools and materials.
2. Salvage reusable materials.
3. Proper care of brushes.
4. Disposal of waste materials.
5. Put things away in their proper places.

ARTS AND CRAFTS

Performance Objectives	Learning Activities
	Note: A completed article of the object to be made should be shown the child before he attempts his project. This serves both as motivation and as a model to which his work may be compared.
Paper Work	
Crushing	-Make mobiles - crush into odd shapes and paint -Make fruit, paper weight, animals -Cover a jar and make a vase
Tearing and Mosaic	-Decorate paper bag -Make bag puppet -Fill in a predesigned mosaic -Cover an ice cream barrel for trash can
Folding	-Teach first how to fold (basic steps - Orgami books show simple designs) -Make cards -Make mobiles -Teach how to fold to cover a box -Make a fan -Fold napkins in assorted ways
Cutting	-Teach how to cut, fringe, curl -Cut simple shapes and patterns -Make a puppet, paper plate, paper flowers -Cut out dolls-patterns -Make puzzles, scrap book -Use sewing cards
Weaving	-Weave a placemat -Weave paper and cover an ice cream container -Make napkin holder
Construction	-Mobile of constructed insects -Cover spools to make people, furniture, dolls -Paper flowers -egg carton, construction paper, tissue paper -String holder -Cover rolls to make candles -Cover oatmeal box for a wig stand

ARTS AND CRAFTS (continued)

Performance Objectives	Learning Activities
Pasting	-Make a chain -Card ornaments -Noodles on a styrofoam ball
Painting	
Finger	-Use arms - feet, etc. -On cloth make a print
Sponge or other tools	-Use assorted sponges and shapes -Use junk - bottle caps, screws, nuts, bolts, pencils, erasers
Spatter	-Straws - sprinkle bottle -Brush - spray bottle -Yarn
Brush	-Use of techniques Jars, Boxes, Weights
Modeling	
Clay	-Make hand or foot impression -Use playdo and bake into jewelry shapes
Papier Mache	-Cover jars, bottles, make people -Cover boxes, make waste cans
Pulp	-Animals, fruit
Sawdust and paste	-Paper weight zoo animals, fruit
Textile	
Mesh Weaving	-Picture -Placemats, chair seat -Purse -Potholder
Simple Stitchery	-Placemats -Potholder -Wallhanging -Chair cover or pillow -Outline of hand or foot -Applique

ARTS AND CRAFTS (continued)

Performance Objectives	Learning Activities
Creativity in Design	
Scrap Usage	
Bottles	-Animals, people, vases
Foil	-Wreaths, paper weights
Styrofoam	-Puppets, mobiles, pin cushion
Egg carton	-Animals, flowers, people
Boxes	-Games, shadow box, puppet theater, trash can
Others	-Clothespin people -Popsickle people

APPENDIX D

TEACHER'S GUIDE
FOR
COMMUNICATION SKILLS
TRAINABLE PROGRAM

BALTIMORE CITY PUBLIC SCHOOLS

TEACHER'S GUIDE FOR COMMUNICATION SKILLS
TRAINABLE PROGRAM

INTRODUCTION

This release represents a teacher's guide for the development of the communication skills in Listening, Speaking and Writing for trainable children. The communications skills are of enormous importance in the education of trrainable children. A carefully paced program based on individual needs is vital. This guide provides the skills and suggested activities which should provide maximum growth and development for trainable children in the area of communication.

Trainable children are severely limited in their ability to read and write. They must depend on speech as their chief means of communication. Realistically then, the trainable program should include development of specific language and speaking skills to increase verbal intelligence and stimulate oral language.

The program is designed to facilitate rather than add to the work teachers are already doing. Normal developmental speech and language patterns serve as a basis for the organization of the program. However, the skills and related activities listed here were chosen to be used effectively with trainable mentally retarded pupils. When using this guide the teachers will find it necessary to adapt this material to the individual needs and language levels of the children within the classrooms. Each teacher must interpret the aims stated here in terms of the specific abilities and disabilities of her pupils. The time allotment for completing any one of the series of skills will vary according to the ability of the child

LISTENING

A. Goals

1. To develop awareness of sound and recognition of familiar sounds
2. To give training in comprehension
3. To discriminate between types of gross sounds
4. To develop finer sound discrimination
5. To develop speech sound discrimination
6. To stimulate the thinking process through the use of exercise in memory span, assocation and sequencing

B. General Techniques and Procedures

1. Direct auditory training is necessary for the trainable child
2. Use simple direct sentences.
3. Keep eye to eye contact with pupil.
4. Repeat as often as necessary. This may mean two or three times. Don't be afraid of this.
5. Establish routine listening standards.
6. Stand still while talking.
7. Let child see your lips move.
8. Hold you head and look at children.
9. Speak slowly.
10. Set a good example as a listener by not cross-talking the children.
11. Praise children for listening.
12. Learn to actively listen to your children. Show interest by commenting or asking questions.
13. Teach according to the mental age of your children.
14. Seat children in a circle or semi-circle formation for listening activities.

LISTENING

Performance Objectives	Learning Activities
Gross Sound Discrimination	
To recognize the presence of sound (a) on and off (b) duration	Play musical chairs, using songs, jingles, musical instrument. Have children become aware of sounds in the immediate environment. Examples: Point out the noises we make with parts of our own body--have them clap with hands; feet--have them walk, run, stamp, hop, etc.; mouth --let them imitate your laughing, crying, speaking, etc. Use a number of noise-making objects. Let children handle the objects. Play classroom tapes made from trips; record sounds in the street Place pictures on flannel board of sound making objects and have picture and sound identified Materials: Flannel board, many concrete objects: clock, record player, horn, whistle, running water Audio-Flashcard set - "Familiar Sounds"
To recognize classroom noises	Ask the class to sit up and refrain from speaking or moving. Ask, "What do you hear?" Follow procedures as outlined in the Peabody Language Kit, Level "P" p. 5 ex.3; p. 132, ex. 2 Materials: Peabody Language Development Kit Level "P", Teacher made tapes, Tape Recorder, Recorder
To recognize animal sounds	Follow procedures as outlined in PLDK Level "P" p. 18 ex. 2; p.78 ex. 3; p. 307, ex. 1 Materials: Peabody Language Development Kit Level "P", Language Master, Flannel Board

LISTENING (continued)

Performance Objectives	Learning Activities
Gross Sound Discrimination (cont.)	
To recognize sounds of familiar objects (ex. bell, train)	Follow procedures as outlined in PLDK Level "P" People, page 340 ex. 1, Circus p. 317 ex. 3, p. 330 ex. 3 Toys p. 314 ex. 3, Home p. 271 ex. 1, p. 321 ex. 3 Materials: Peabody Language Development Kit
To recognize tones (different kinds and sizes of bells, rhythm instruments)	Materials: Rhythm instruments, Teacher made tapes, tape recorder
To recognize sounds made by tapping, similar objects	Tape classroom experiences, play back to identify sounds, noises, actions that are similar
To recognize rhythmic patterns	Follow procedures as outlined in PLDK Level "P" p. 316 ex. 3 and Level "I" p. 6 ex. 3 Materials: Peabody Language Development Ket Level "P" and Level "I"
Finer Sound Discrimination	
To discriminate between sounds on the basis of:	
Distance--near and far	Have leader to close eyes and be able to tell whether the child who is speaking is near or far away (in the circle or by the door) Materials: Teacher prepared tapes, Language Masters, Audio Flash Cards
Pitch--high and low	Strike high and low on instruments, using great contrast in tones. Draw a ladder on the board and have children indicate whether a tone is high pitched or low pitched Materials: Rhythm instruments

LISTENING (continued)

Performance Objectives	Learning Activities
Finer Sound Discrimination (cont.)	
Volume--loud and soft	Direct pupils to imitate a series of tom-tom beats by clapping and/or tapping Materials: Drums--Rhythm sticks
To identify people by Age Sex Association (classmate, known adults)	Direct children to play "Who Am I" Identify classmates and teachers voices Tape classroom experiences and play back to identify voices Tell the story, "The Three Bears" varying pitch quality and loudness of voice to differentiate the character. Children may imitate the refrains or key phrases developed in the story. Materials: Language Masters, Teacher prepared tapes, Record albums "Good Morning Mrs. Miller," "Who Said It," Puppet Playmates "The Bears"
Listening and Thinking Memory-Association-Sequencing	
To listen to follow direction Simple	Present 2 pictures and ask child to select the one named Materials: Matrix Games, Language Lotto Gradually increase the number of pictures presented and the number of pictures to be selected. Follow procedures as outlined in the Peabody Language Kit, Level "P" p. 16 ex. 4, p. 30 ex. 1, p. 33, ex. 3, p. 39 ex. 3, p. 40 ex. 4, p. 43 ex. 3, p. 48 ex. 1, p. 66 ex. 3 Materials: Peabody Language Development Kit Level "P", Teacher may make own directions on tape

LISTENING (continued)

Performance Objectives	Learning Activities
Listening and Thinking (cont.) Memory-Association-Sequencing	
Complex	Follow procedures as outlined in the Peabody Language Kit, Level "P" p. 34 ex. 2, p. 348 ex. 4, p. 213 ex. 3, p. 176 ex. 3, p. 167 ex. 3, p. 17 ex. 2, p. 198 ex. 3 Materials: Peabody Language Develop-Kit Level "P"
To listen to associate an event with a picture	Follow procedures as outlined in the Peabody Language Kit, Level "I" p. 85 ex. 3, p. 8 ex. 2, p. 9 ex. 2, p. 27 ex. 3 Materials: Peabody Language Development Kit Level "I"
To listen to recall items in sequence (memory)	Say series of numbers or words for children to repeat Follow procedures as outlined in the Peabody Language Kit Level "P" p. 78 ex. 3, p. 83 ex. 2, p. 84 ex. 3, p. 114 ex. 1, p. 168 ex. 2, p. 149 ex. 2, p. 223 ex. 3 Materials: Peabody Language Deveopment Kit Level "P"
To listen to recall events in sequence	Follow procedures as outlined in the Peabody Language Kit Level "P" p. 311 ex. 1 Level "I" p. 127 ex. 4, p. 102 ex. 3, p. 174 ex. 1 Level "II" p. 229 ex. 3, p. 243 ex. 1, p. 271 ex. 1 Materials: Peabody Language Development Kit Level "P", "I", and "II"
Listening to all that is said (attending)	Use pictures that are similar: ex. a bird and tree, a bird, tree with nest; then ask child to listen to find the picture that says the bird is flying to its nest. Materials: Pictures, tapes, opaque projector, overhead projector

LISTENING (continued)

Performance Objectives	Learning Activities
Listening and Thinking (cont.) Memory-Association-Sequencing	
Listening to all that is said (comprehension)	Say a series of numbers or words for children to repeat. Start with 2 numbers or words and gradually increase Materials: Pictures, Concrete objects, Language Lotto Play "Bring Me," using objects and pictures for practice in following directions. Build commands in complexity from one item to several specific items. (Ex. "Bring me a ball." Later, "Bring me the red ball and the blue car.") Materials: Matrix Games
To listen to organize ideas. (Classification, opposites, relationship terms)	Follow procedures as outlined in the PLDK Level "P" p. 24 ex. 3, p. 40 ex. 3, p. 50 ex. 3, p. 60 ex. 3, p. 97 ex. 1, p. 214 ex. 1, p. 307 ex. 2, p. 302 ex. 3, p. 21 ex. 3, p. 61 ex. 2, p. 62 ex. 1, p. 64 ex. 2, p. 77 ex. 1, p. 104 ex. 2, p. 118 ex. 1, p. 214 ex. 3 Materials: Peabody Language Development Kit Level "P", Instructo Activity Kit: "classification"
Speech Sound Discrimination	
To differentiate grossly different sounds in isolation	Say 3 unlike sounds (ex. b, s, l) and ask children to signal when you say one of them. Materials: Eye-Gate Filmstrips Make a "Sound Train" and have children distinguish sounds by putting pictures of objects with the same beginning sound in appropriately labeled "cars."

LISTENING (continued)

Performance Objectives	Learning Activities
Speech Sound Discrimination (cont.)	Materials: Instructo Activity Kit --Carnival of Beginning Sounds" Picture from Peabody Language Development Kit Begin class "Sound Books" containing pictures of objects which begin with the same sound. Associate letter sounds with objects or animals for ready identification. Say "Listen, raise your hand when you hear the "sh" sound (ex. "B" - bell, "S" - snake, etc.) Materials: Alphabet Talk, Slip Charts: Consonants and Blends
To differentiate similar sounds in isolation	Say three similar sounds (ex. s, sh, ch). Ask children to signal when you say the one designated. Say "Listen, raise your hand when you hear the "sh" sound (es. "B" ball, "S" - snake, etc.) Prolong a sound, having children signal when the sound is no longer heard. Variation: Say a sound and have children imitate it when you stop. Materials: Record Album, "Listening with Mr. Bunny Big Ears"
To contrast syllables with different initial sounds	Have children to raise both hands when they hear the "s" sound. tho-so soo-shoo see-fee
To contrast words with different initial sounds	Children signal when they hear a word with "B" come- ball- look boy- tree- bird
To recognize rhyming words	Children indicate which words rhyme after listening to sequence of 2 or more words. hill- bill hill- home bat- call- mat

LISTENING (continued)

Performance Objectives	Learning Activities
	Materials: Peabody Language Kit Teachers Manuals: Levels I and II Audio Flashcard Set - "Rhyming Words" Pictures from Peabody Kits

SPEAKING

A. Goals

1. To promote favorable attitudes toward speech and encourage growth in speech skills
2. To improve articulation and pronounciation
3. To develop greater vocal variety and to gain pleasure from participating in enjoyable oral activities
4. To develop appropriate language patterns and to stimulate vocabulary development
5. To encourage the use of desirable language habits in home and school environment

B. General Techniques and Procedures

1. Set a good example by using good speech.
2. Keep eye-to-eye contact.
3. Let child see your lips move.
4. Speak slowly.
5. Establish class standards and routines for speaking.
6. Integrate and correlate newly learned speech with classroom activities.
7. Use simple direct sentences.
8. Stand still while talking.
9. Seat children in a circle or semi-circle formation for speaking activities.
10. Teach according to the Mental Age of your children.
11. Provide recurring but varied contacts with each skill.
12. Build lessons systematically and sequentially.
13. Discover the success level of each child and build from there.
14. Utilize situations familiar to your class to encourage speech and speaking.

SPEAKING

Performance Objectives	Learning Activities
Building a Basic Vocabulary	Use procedures as outlined in Language Lotto, p. 6 Use procedures as outlined in Language Master Cards, Manual Basic Concept Cards Materials: Language Lotto Objects, Language Master Cards Set 1 (Nouns)
Teaching words directly related to child's experiences	
To teach nouns	Use procedures as outlined in Peabody Kits for Vocabulary Building Time PLDK Level #P, p. 99, Ex. 1 + 2
Body Parts	PLDK Level #P, p. 9, Ex. 1 p. 30, Ex. 1 Level #1, p. 69, Ex. 1
People	PLDK Level #P, p. 80, Ex. 1,2,3,4 p. 161, Ex. 1,2,3 p. 325, Ex. 1
Clothing footwear headwear bodywear other	PLDK Level #1, p. 53, Ex.1 Level #P, p. 76, Ex. 1,2 p. 97, Ex 1 + 3
Foods	PLDK Level #P, p. 7, Ex. 1 Level #1, p. 62, Ex. 3 Level #P, p. 13, Ex. 1
Household	PLDK Level #P, p. 72, Ex. 1 + 3 p. 118, Ex. 1 + 3 p. 167, Ex. 1,2,3
Shapes and colors	PLDK Level #P, p. 76, Ex. 3 + 4 p. 15, Ex. 1 p. 22, Ex. 1 + 2 p. 26, Ex. 1 + 3 p. 31, Ex. 4
Transportation vehicles	PLDK Level #P, p. 253, Ex. 1 p. 100, Ex. 1

SPEAKING (continued)

Performance Objectives	Learning Activities
Building a Basic Vocabulary (cont.)	
Tools	PLDK Level #II, p. 80, Ex. 1 p. 157, Ex. 1 p. 175, Ex. 1 p. 207, Ex. 1
Toys	PLDK Level #I, p. 29, Ex. 1 (Substitute toy cards) p. 113, Ex. 1 + 2 p. 68, Ex. 1
Animals	PLDK Level #P, p. 11, Ex. 1 p. 78, Ex. 1,2,3,4 Level #II, p. 3, Ex. 1 p. 183, Ex. 1
Occupation	PLDK Level #II, p. 181, Ex. 1 p. 189, Ex. 1 + 2 p. 30, Ex. 1 p. 117, Ex. 1
Other	PLDK Level #P, p. 83, Ex. 1 + 2 p. 89, Ex. 1 + 2 p. 317, Ex. 1,2,3,4
	Materials: Peabody Kits Level P, I, and II; Audio-Flash Card Set #5; Pictures; Flannel objects; My Home--Family Instructo Activity Kit; Language Lotto Game;
To teach verbs	Level I
Is, are, run, jump, hop, walk	Lesson #103, No. 3, p. 124 #17, No. 2, p. 24
	Level II
	Lesson #9, No. 2, p. 17
	Level P
	Lesson #7, Part B, No. 2, p. 17 #101, Part B, No. 4, p. 193
	Materials: Pictures selected; Peabody Kits; Words Picture-Program Set II; Verb-actions

SPEAKING (continued)

Performance Objectives	Learning Activities
Building a Basic Vocabulary (cont.)	
To teach prepositions over-under beside-before on in out above-below before-after	Level P Lesson #50, Part B, No. 2, p. 93 Level I Lesson #38, No. 1, p. 48 #113, No. 3, p. 137 Use procedures as outlined in language lotto (Teacher's manual p. 11) Use procedures as outlined in the Matrix Game (Teacher's manual) Level I Lesson #124, No. 2, p. 152 Level P Lesson #73, Part B, No. 3, p. 141 #75, Part B, No. 3, p. 143 #85, Part B, No. 4, p. 162 #87, Part B, No. 4, p. 166 #98, Part A, No. 2, p. 186 #104, Part A, No. 2, p. 199 Part B, No. 3, p. 199 #118, Part A, No. 2, p. 230 #126, Part B, No. 3, p. 247 #145, Part B, No. 4, p. 291 Materials: Peabody Kits; Language Lotto - Box II and III; Audio Flash Cards #6; Kitchen Play Equipment; Toys
To teach adjectives and adverbs pretty big large small color words toy short heavy light round square	Level II Lesson #103, No. 3, p. 178 #110, No. 3, p. 189 #120, No. 1, p. 205 #152, No. 1, p. 256 Materials: Peabody Kits

SPEAKING (continued)

Performance Objectives	Learning Activities
Building a Basic Vocabulary (cont.)	
To teach pronouns she we he I they them	Level I Lesson #91, No. 2, p. 11 #160, No. 2, p. 200 Materials: Peabody Kits
Recalling and associating known words	
To teach phrase or sentence completion	Level I Lesson #146, No. 2, p. 183 #154, No. 2, p. 193 #128, No. 3, p. 158 #121, No. 1, p. 149 #99, No. 1, p. 119 #98, No. 2., p. 118 #94, No. 2, p. 114 #73, No. 1, p. 89 #53, No. 2, p. 65 Level P Lesson #179, Part A, No. 2, p. 368 #156, Part B, No. 3, p. 316 Materials: Peabody Kits
To teach word associations	Level I Lesson #66, No. 2, p. 81 #135, No. 1, p. 168 #137, No. 2, p. 171 #139, No. 2, p. 174 #142, No. 1, p. 177 Use procedures as outlined in the Language Lotto (Relationships) Level II Lesson #44, No. 1, p. 76 #49, No. 3, p. 86 #79, No. 1, p. 133 Materials: Peabody Kits
Developing phrases	

SPEAKING (continued)

Performance Objectives	Learning Activities
Building a Basic Vocabulary (cont.)	
To teach number words, especially indefinite numbers, and color words	**Level I** Lesson #80, No. 3, p. 85 #91, No. 2, p. 111 #138, No. 2, p. 172 #141, No. 1, p. 176 **Level P** Lesson #17, Part B, No. 4, p. 31 #15, Part B, No. 4, p. 27 Materials: Peabody Kits
To combine nouns with adjective and adverbs boy - noun small - adjective slowly - adverb The small boy walked slowly. The black dog barked loudly. N adv. The boy began to verb adj. eat the big N sandwich.	Give model sentences to repeat, building up to longer units Materials: Pictures (each depicting a part of speech)
Using the Sentences in Connected Speech	
Teaching the use of short simple sentences To repeat model sentences	**Level P** Lesson #4, Part A, No. 1, p. 7 #5, Part A, No. 2, p. 9 #6, Part A, No. 1, p. 11 #8, Part A, No. 1, p. 13 #8, Part B, No. 1, p. 13

SPEAKING (continued)

Performance Objectives

Using the Sentences in Connected Speech (cont.)

To use short simple sentences in response to questions

I see a ________
I see an ________
I see the ________
I want ________

Learning Activities

Level P (cont.)

Lesson #14, Part A, No. 2, p. 24
#18, Part A, No. 1, p. 32
#19, Part A, No. 1, p. 34
#20, Part B, No. 4, p. 36
#25, Part B, No. 3 + 4, p. 44
#26, Part A, No. 1, p. 46
#27, Part A, No. 2, p. 48
#31, Part A, No. 1, p. 54
#34, Part A, No. 1 + 2, p. 60
#42, Part A, No. 1, p. 76
#43, Part A, No. 1, p.78
#45, Part A, No. 2, p. 83
Part B, No. 4, p. 84
#54, Part A, No. 1, p. 101
Part B, No. 3, p. 101
#55, Part A, No. 1, p. 103
Part B, No. 3, p. 103
#61, Part A, No. 1, p. 115
#64, Part A, No. 2, p. 120
#70, Part A, No. 1, p. 134
Part B, No. 4, p. 135
#72, Part A, No. 2, p. 138
#73, Part A, No. 1, p. 140
#79, Part A, No. 1, p. 150
#90, Part A, No. 1, p. 171
#91, Part A, No. 2, p. 173
#94, Part B, No. 3, p. 180

Level I

Lesson #17, No. 2, P. 24
#38, No. 3, p. 48
#48, No. 1, p. 59
#62, No. 2 p. 77
#89, No. 1, p. 109

Level II

Lesson #12, No. 3, p. 23

Materials: Peabody Kits, Matrix Game, Audio-Flash Set, Concrete objects

SPEAKING (continued)

Performance Objectives	Learning Activities
Using the Sentences in Connected Speech (cont.)	
Describing pictures and objects	
To describe pictures and objects	**Level P** Lesson #147, Part A, No. 1, p. 294 **Level I** Lesson #8, No. 1, p. 11 #11, No. 3, p. 16 #12, No. 2, p. 17 #35, No. 2, p. 45 #38, No. 3, pp. 48, 49 #39, No. 2 + 3, p. 50 #46, No. 2, p. 57 #48, No. 1, p. 59 #52, No. 1, p. 64 #59, No. 1, p. 73 #62, No. 2, p. 77 #63, No. 1, p. 78 #87, No. 1, p. 107 #147, No. 1, p. 184 #156, No. 1, p. 196 **Level II** Lesson #3, No. 1, p. 4 #14, No. 1, p. 26 #23, No. 1, p. 39 #18, No. 3, p. 34 #123, No. 1, p. 208 **Materials**: Peabody Kits; Concrete objects
Using structured and free conversation	
To provide opportunities for structured conversation	**Level P** Lesson #10, Part A, No. 2, p. 17 #22, Part A, No. 1, p. 39 #51, Part A, No. 1, p. 95 #71, Part A, No. 1, p. 136 #85, Part A, No. 1, p. 161 #53, Part A, No. 1, p. 99

SPEAKING (continued)

Performance Objectives

Using the Sentences in Connected Speech (cont.)

Listening activities requiring verbal responses in complete sentences

Learning Activities

Lesson #30, Part A, No. 1, p. 53
#15, Part A, No. 1, p. 26
#74, Part A, No. 1, p. 142
#106, Part A, No. 1, p. 204

Level I

Lesson #6, No. 3, p. 9
#14, No. 2, p. 19
#30, No. 1, p. 39
#61, No. 1, p. 76
#64, No. 1, p. 79
#143, No. 1, p. 179
#164, No. 2, p. 207

Level II

Lesson #6, No. 2, p. 11
#9, No. 1, p. 17
#15, No. 2, p. 29
#17, No. 2, p. 32
#26, No. 1, p. 44
#28, No. 1, p. 47
#36, No. 1, p. 62
#54, No. 1, p. 94
#76, No. 1, p. 129
#84, No. 1, p. 141
#96, No. 1, p. 165
#106, No. 1, p. 181
#116, No. 1, p. 198
#118, No. 1, p. 202
#126, No. 1, p. 213
#137, No. 1, p. 232
#138, No. 1, p. 233
#146, No. 1, p. 246
#158, No. 1, p. 268
#168, No. 1, p. 283
#176, No. 1, p. 297

Materials: Peabody Kits; Audio-Flash #5

SPEAKING (continued)

Performance Objectives	Learning Activities
Using the Sentences in Connected Speech (cont.)	
To listen in order to give an oral direction To listen in order to describe To listen in order to to be able to answer questions	Level I Lesson #5, No. 2, p. 8 #6, No. 2, p. 9 #14, No. 3, p. 19 #35, No. 2, p. 45 #53, No. 2, p. 65 #58, No. 1, p. 71 #140, No. 1, p. 175 Level II Lesson #41, No. 2, p. 71 #48, No. 2, p. 82 #49, No. 2, p. 85 #70, No. 2, p. 120 #117, No. 2, p. 200 #141, No. 3, p. 237 #135, No. 1, p. 228 #160, No. 1, p. 271 Materials: Peabody Kits; Audio-Flash
Developing Clear and Audible Speech	
Learning speech sounds	(See sequence for teaching listening skills)
To teach auditory training To teach correct production of the sound in isolation To teach habitual use of the correct sound	
Develop grammatical skills and usage To teach use of complete sentences	Level I Lesson #100, No. 1, p. 120 #119, No. 2, p. 146 Level II Lesson #30, No. 3, p. 51

SPEAKING (continued)

Performance Objectives	Learning Activities
Developing Clear and Audible Speech (cont.)	Level II (cont.) Lesson #21, No. 3, p. 37 #18, No. 1, p. 34 #50, No. 3, p. 88 #60, No. 3, p. 105 #70, No. 2, p. 120 #80, No. 3, p. 136 #90, No. 3, p. 153 #140, No. 3, p. 236 Materials: Peabody Kits
To teach the use of question forms	Say, "Today children, let's have a treasure hunt. I have hidden envelopes around the room. There is something in each envelope. There is one envelope for each of you. "Look and see if you can each find one envelope. When you find an envelope, take your seat." Then have each child describe the shape in his envelope using sentence pattern: "I found a ____ in my envelope." Reverse and have child ask a classmate, "What is in your envelope?" Use real objects, flash card pictures and similar visual aids to motivate question forms.
To teach word forms and sentence order through pattern practice	Role play to give practice in question form Shopping situations Getting acquainted Requesting articles and information Materials: Flash card pictures; Concrete objects

HANDWRITING

Handwriting is a skill we must help children to develop. It is viewed as a means of self-expression and communication, not as an end in itself. For the trainable child it is a source of tremendous personal satisfaction to achieve the ability to write one's own name.

The chalkboard remains one of the most effective teaching aids in the handwriting program. New handwriting concepts should be introduced at the chalkboard before pupils attempt the lesson paper.

Progress is slow, scarcely detected. It is not expected that any one handwriting skill can be acquired in one lesson. Many well planned lessons that provide both demonstration and practice are required for the acquisition of a skill.

Goals

1. To gain the ability to write one's own name and address
2. To reinforce the recognition of words
3. To reinforce the recognition of numbers
4. To gain the ability to use handwriting as a vocational tool
5. To improve eye-hand coordination

HANDWRITING

Performance Objectives	Learning Activities
Large Muscle Activity	
Free scribbling with full arm motion Pull-push strokes Large circles from scribbling and push-pull strokes	Sit close beside child Guide child's hand when needed Verbalize as little as possible Anchor paper with tape All circle exercises go counter-clockwise Always start with success (Be sure that the first task of each handwriting lesson is something the child can do.) Materials: Newsprint for each child (large sheets); Large crayon; Brushes; Finger paint; Water; Sand; Air exercise
Basic Manuscript Strokes	
Progressing to a more controlled direction Large sweeping circles Vertical strokes --down stroke Horizontal strokes--across stroke Oblique lines--start right to left Oblique lines--start left to right	Use smaller paper to urge smaller circles Place hand at point on paper, say "Don't touch me." Each activity is mastered before beginning next step Do Not Mix these tasks Use large paper well taped to desk Use soft primary pencil Use black crayon Materials: Line newsprint; Box of crayons; Paper; Felt pen; Crayon (large); Primary pencil

HANDWRITING (cont.)

Performance Objectives	Learning Activities
Basic Manuscript Strokes (cont.)	
Learning to confine circles and lines within specified limits (within)	Left to right progression Draw from top to bottom
Draw the lines up and down	Use different colored crayons to help with spacing
Large circle can be confined within a series of narrowing lines until they can be done well at 1½" diameter	Trace teacher's copy
Learning to guide a pencil purposefully in any direction	Trace broken lines to complete circle Keep paper stationary (taped) Use clock game Trace from 1 hour to the next or trace from 1 hour to the next two or three hours. Always in a COUNTER-CLOCKWISE direction
Presentation of Letters	
Straight line letters such as I, L, T, F, E, H Capital-small	Usually letters are taught according to the similarity of their beginning, their size, and curves
Straight line letters which slant to the right and/or left such as V, W Capital -Small	
Circle letters such as O	Individual instruction and close supervision will be needed
Part circle letter such as C	
Part circle and straight line combination letters, d, b, p, a	Encourage legibility first, then speed Don't expect too much too fast
Explanation of letters i and t (point out that "t" is neither two	

HANDWRITING (cont.)

Performance Objectives

Presentation of Letters (cont.)

spaces tall nor one space tall). Practice the t with an i.

Beyond Letter Formation

- Make labels
- Write signatures
- Copy material
- Write addresses
- Write telephone numbers
- Write name of school
- Write any functional material

Learning Activities

Materials: Ruled paper; pencil

Start slowly, repeating lessons as many times as there is a need.

Eliminate the monotony
  Experiment with magic markers.
  Use different colored crayons, pencils
Let there be a need for writing.
Let child achieve correct position of body, paper and pencil.
Demonstrate specifics of every lesson on the chalkboard including the kind of stroke, direction of the stroke (a combination of strokes).
Teach the correct starting point for every letter introduced.
Execute each vertical stroke by pulling from the top downward.
Make the left stroke first, i.e. in letter "d" make "c" then "i" to make "d."
Have pupils place index finger after a word to determine the spacing between words and sentences.
Discourage erasing at all times.
Employ letters learned in meaningful words.
Maintain a routine schedule of instructions.
Avoid introducing more than one step in any lesson.

SAMPLE HANDWRITING PLAN

1. Review the previous lessons at the chalkboard. For example, if the previous lesson introduced a basic manuscript letter, you may want to review it by having your pupils write it in the air as you write it on the chalkboard.

2. Discuss the lesson to be presented today. If a letter is to be presented, use wall card for your initial introduction.

3. Demonstrate the lesson material at the chalkboard while the pupils watch.

4. Demonstrate again the lesson material at the chalkboard while the pupils write in the air.

5. Select several pupils to write the new lesson at the chalkboard while the remaining pupils write in the air.

6. Have children use their index finger as a pencil to trace the stroke or strokes in the lesson for the day.

7. Practice the lesson lined paper.

8. Supervise closely the efforts of pupils as they work on their paper. During this part of the lesson good or bad habits are formed.

9. After the class has worked independently, review the lesson again.

10. Occasionally you may want to send a lesson home that has been written on practice paper so parents can see the results of your program.

APPENDIX E

TEACHER'S GUIDE
FOR
HOME ARTS
TRAINABLE PROGRAM

BALTIMORE CITY PUBLIC SCHOOLS

HOME ARTS

Performance Objectives	Learning Activities
Personal Grooming - Level I	
Knowledge of Body Parts Identification of parts of the body Head: Face Hair Lips Eyes Mouth Teeth Ears Neck Body: Arms and underarms Legs Feet Torso	Identify and locate parts of body on doll, poster, pupils in class. Use games, jingles to locate, name parts of body. Discuss care of body parts, safety for and usage of. Practice some basic care of body parts, use doll, self. Use charts, posters, filmstrips, songs illustrating care.
Body Cleanliness Characteristics of a clean, neat person General appearance Personal hygiene	Discuss, identify characteristics of a clean person. Use charts, posters on cleanliness Identify necessary grooming aids as listed
Identification of grooming aids Soap Washcloth Toothpaste Deodorant Comb Hairbrush Toothbrush Shoe Polish, brush Mirror	Demonstrate and practice use of aids on parts of body Collect pictures of aids, practices for chart, scrapbook on grooming Use charts, posters, filmstrips on use of aids
Use of grooming aids Care of body Washing parts Hands Face Ears Care of teeth Brush regularly Visit dentist	

HOME ARTS (continued)

Performance Objectives	Learning Activities
Personal Grooming - Level I (cont.)	
Body Cleanliness	
Care of hair Comb and brush Arrange neatly Grooming hands and nails Wash Clean nails	
Health and Physical Appearance Proper diet Three balanced meals daily Exercise and good posture Play Sitting and standing Sleep and rest	Discuss being healthy, importance of eating proper food; meal patterns Develop concepts of good breakfast, lunch, dinner Collect and organize pictures of foods into balanced meals; make scrapbook Discuss and practice exercises and good posture while sitting, standing Use appropriate charts, games and exercises Discuss need for enough sleep and rest Use charts, posters, filmstrips on sleep and rest
Clothing and Appearance Care of Clothing Hanging up Careful sitting Avoid soiling	Demonstrate and practice basic care named Use dolls, paper dolls, self to practice care of clothes Jingles, songs on appearance
Personal Grooming - Level II	
Knowledge of Body Parts Review Level I	Review all learnings and experiences in Level I
Body Cleanliness Identification of aids Hair roller, nets Nailbrush	Review all learnings and experiences in Level I Display and identify aids for hair and hands as listed

HOME ARTS (continued)

Performance Objectives	Learning Activities
Personal Grooming - Level II (cont.)	
Body Cleanliness	
Shampoo Manicure tools Hair dryer Hand creams and lotions	
Care of body Bath or shower	Discuss care of body; methods of cleaning by bath or shower Use pictures, filmstrips, doll and bathtub to illustrate Discuss care of hair, use grooming aids for hair; practice hand care experiences in Level I
Health and Physical Appearance Review Level I	Review all learnings and experiences in Level I
Clothing and Appearance Care of clothes - Review Level I Washing Ironing	Discuss laundering of clothes. Demonstrate washing of personal articles of clothing by hand; use of detergents, proper water temperature Demonstrate and practice ironing of articles washed (when needed)
Selecting clothes For various occasions Colors and prints Proper combinations	Discuss selection of clothes for various occasions; use paper dolls, samples of clothing; pictures of models in clothes Discuss principles for combining colors and prints Display various colors and print combinations on dolls or figures
Personal Grooming - Level III	
Knowledge of Body Parts Review Levels I and II	Review all learnings and experiences in Levels I and II

HOME ARTS (continued)

Performance Objectives	Learning Activities
Personcal Grooming - Level III (cont.)	
Body Cleanliness	
Review Levels I and II	Review all learnings and experiences in Levels I and II
Identification of aids Makeup Shavers, shaving cream	Discuss use of makeup suitable for teenage girls Collect pictures for a display of properly made up teenagers Set up standards for good use of cosmetics Discuss makeup for various occasions Display cosmetics which may be used. Use pictures, filmstrips on use of makeup
Use of grooming aids Care of hair Use of hair rollers Hair dressings Grooming hands and nails Using nail brush Using manicure set Use of nail polish, remover Use of hand creams or lotion	
Health and Physical Appearance	
Proper diet Energy foods Body builders	Discuss importance of proper diet for good looks, energy food, body builders. Use charts, posters, filmstrips to illustrate
Exercise and good posture Figure control	Practice exercises for a good figure. Use pictures, exercise charts
Clothing and Appearance	
Care of clothes - Review Levels I and II	Review experiences in Levels I and II

HOME ARTS (continued)

Performance Objectives	Learning Activities
Personal Grooming - Level III (cont.)	
Remove spots Press wrinkles	Demonstrate and practice spot removal by washing, use of cleaning fluid Demonstrate and practice pressing clothes to remove wrinkles Use iron, ironing board - review rules for correct use
Care of shoes Brush and polish Protect from weather	

HOME ARTS (continued)

Performance Objectives	Learning Activities
Home Management - Level I	
Knowledge of Household Rooms	
Identification of rooms and use Kitchen Living room Dining room Bedroom Bathroom	Identify pictures of rooms in a house; tour apartment rooms, examine doll house rooms Name and discuss kinds of homes, rooms in each, uses Discuss care needed in each room of a house
Care required in each room	
Knowledge of Household Tasks	
Daily Chores Dusting Sweeping Mopping	Name and discuss cleaning jobs required daily in classroom and at home Delegate jobs to class members Charts, posters, filmstrips of cleaning tasks; jingles, songs about cleaning duties
Knowledge of Household Cleaning Aids	
Identification of Tools, Equipment, and Supplies Dust cloth Broom and dust pan Dust mop	Identify commonly used household tools, equipment, and supplies listed Display real objects. Discuss, practice use of tools, aids Pictures, charts, posters of other objects used Collect and organize pictures of aids on posters
Use of Cleaning Tools	
Using tools, equipment and supplies listed above to perform basic household duties	Demonstrate and practice use of all aids named in cleaning classroom (apartment) Rotate duties among class members

HOME ARTS (continued)

Performance Objectives	Learning Activities
Home Management - Level I (cont.)	
Dusting Sweeping Mopping Dry Wet	
Care and Safety of Equipment	
Care and safety in use of tools and equipment Washing, storing dust cloth Handling of broom, storing Shaking mop, cleaning	Discuss, demonstrate and practice as tools are used--real objects Review safety rules, proper care for each tool used Charts, posters, filmstrips on care and safety
Home Management - Level II	
Knowledge of Household Rooms Review and extend concepts and skills in Level I	
Knowledge of Household Tasks Review Level I	Extend experiences in Level I
Daily chores Making beds Washing dishes	Role play two homemakers discussing things that must be done in their homes
Weekly chores Waxing floors Vacuuming rugs Scrubbing Changing beds	Name and discuss more difficult daily chores and weekly chores
Knowledge of Household Cleaning Aids Review Level I	Extend experiences in Level I

HOME ARTS (continued)

Performance Objectives	Learning Activities
Home Management - Level II (cont.)	
Identification Vacuum Waxes Mops Washer and washing supplies Dryer Ironing board and iron	Identify cleaning aids listed --display Pictures, filmstrips of articles
Use of Cleaning Tools	
Review Level I	Extend experiences in Level I
Use of Tools Washing dishes Caring for range and refrigerator Removing trash and garbage Care of can Wrapping garbage Vacuuming Floors and rugs Upholstery	Demonstrate and practice use of tools listed by cleaning in classroom or apartment
Care and Safety of Equipment	
Review Level I	Extend experiences in Level I
Care and Safety Dishes Avoid striking hard surface Use correct water temp. Iron Correct temp. for fabric Care in handling	Discuss, practice safety in use of tools listed Develop rules for safe work with tools listed
Home Management - Level III	
Knowledge of Household Rooms	Extend and give many chances for practical application concepts and skills in Levels I and II

HOME ARTS (continued)

Performance Objectives	Learning Activities
Home Management - Level III (cont.)	
Knowledge of Household Tasks	
Review Levels I and II	Extend experiences in Levels I and II
Daily chores Care of bathroom Weekly chores Laundering Washing Ironing Polishing furniture Washing woodwork Straightening drawers Cleaning stove Seasonal or occasional chores Cleaning windows and mirrors Cleaning closets and cupboards Washing walls	Discuss Daily, Weekly and Seasonal chores listed Set up a schedule of how chores would be done at home
Knowledge of Household Cleaning Aids	
Review Levels I and II	Extend experiences in Levels I and II
Identification Supplies needed for bathroom Cleaners Deodorizers Polishes Furniture Silver Metal Stove and oven cleaners	Demonstrate and practice use of supplies listed in areas of apartment Charts, posters on use of supplies Display and identify supplies listed
Cleaning Tools	
Review Levels I and II	Extend experiences in Levels I and II

HOME ARTS (continued)

Performance Objectives	Learning Activities
Home Management - Level III (cont.)	
Use of tools	
Polishing furniture	
Washing and ironing	
By hand	
By machine	
Scouring	
Sinks, basins	
Pots and pans	
Cleaning bathroom	
Polishing silver, metals	
Cleaning windows, mirrors	
Cleaning, waxing floors	
Washing wall, woodwork	
Cleaning rugs	
Care and Safety of Equipment	
Review Levels I and II	Extend experiences in Levels I and II
Care and safety	
Iron	
Cleaning	
Silver polish	
Waxed paper	
Fine steel wool	
Steam cleaner	
Vacuum cleaner	
Emptying container	
Keeping clear of cord	
Carpet sweeper	
Using correctly	
Storing properly	
Mops	
Washing	
Drying	

Performance Objectives	Learning Activities
Foods - Level I	
Knowledge of Foods Identification of the Basic 4 Names of food groups Foods included in each group Nutritive value of foods Make us grow Make us strong Keep us healthy	Teach each grouping individually Identify foods in the Basic 4 from charts, posters Use food models, pictures of foods, real foods Pupils name foods in groups Filmstrips of foods, origin Lotto game of food groups Discuss nutritive value of foods, posters, charts Organize foods into groups according to nutritive value Practice selecting foods for value needed
Food Preparation Identification of Tools and Equipment Use of equipment and tools Care of equipment and tools Understanding and Practicing safety rules for equipment in use Care with sharp tools Handling hot pans Using oven and stove	Display basic tools and equipment used in preparing simple meals Identify and practice uses (stirring, pouring, using egg beater, rolling pin, knife--cutting and spreading) Name and discuss safety rules for use of equipment Use posters, charts, filmstrips Pantomime kitchen situations using safety rules
Food Service Identification of Parts of a Table Cover Dinnerware--dishes Glassware Silverware Table Covering Placemats Tablecloth Napkins Table Decorations	Identify a table cover--parts listed; use real objects Demonstrate and practice selection and use of parts of a table cover; table setting; use charts, posters, real objects for correct setting for various meals. Filmstrips on table setting
Cleaning up after the Meal Clearing the Table Collecting dishes Use of tray to remove	Pantomime, role-play passing soiled dishes to be removed after meal Use tray for removal of dishes

HOME ARTS (continued)

Performance Objectives	Learning Activities
Foods - Level I (cont.)	
Preparing for Washing Scraping Stacking	Demonstrate and practice scraping dishes, disposing of food, napkins, etc., stacking in order to be washed Use posters, charts, filmstrips to demonstrate
Knowledge of Foods - Level II	
Review Level I	Extend experiences in Level I Extend Nutritive Value
Organization of foods into meals Meal patterns Kinds of foods for each meal Number of servings required	Discuss meal patterns for all meals, practice naming kinds of foods eaten each different meal Discuss number of servings required from each food group--Basic 4 Practice organizing food models, pictures of foods into meals
Food Preparation	
Review Level I	Extend experiences in Level I
Learning to be clean and neat while working in the kitchen Health practices Washing hands Use of apron	Discuss good health practices in the kitchen, role-play situations Make up rules for cleanliness while working in kitchen Demonstrate correct washing of hands, use of apron Practice by students when working in kitchen
Using Measuring tools Identification of tools Nest of cups Spoons Glass cup 1 cup metal cup Practicing measuring Liquids Dry ingredients Solid shortening Use of spatula in measuring	Display and identify tools listed Demonstrate and practice measuring ingredients using tools
Food Service	
Review Level I	Extend experiences in Level I

HOME ARTS (continued)

Performance Objectives	Learning Activities
Foods - Level II (cont.)	
Setting the table Selecting correct tableware Proper placement of dishes, silverware, napkin Selection and placement of table decoration Table manners	Demonstrate and practice selecting tableware and setting the table; use of table decorations Discuss table manners; rules for behavior at the table Charts, filmstrips on table setting, manners
Clean up after Meal Review Level I	Extend experiences in Level I
Washing dishes by hand Preparing water Wash in order Glassware Silverware Dinnerware Serving dishes Cooking utensils Use of dishcloth Rinsing Drying dishes By hand Air-dry Storing dishes Washing table and sink	Demonstrate and practice correct method for washing dishes by hand; rinsing and drying Practice cleaning up kitchen after dishes are washed Charts on dishwashing
Knowledge of Foods - Level III Review Levels I and II	Extend experiences in Levels I and II
Selection of proper foods for meals Meal patterns Menu planning Making market list Buying foods Determining freshness Determining amount to buy	Practice selecting foods for meals; planning menus for meals Develop market list for menus planned Discuss buying foods, what to look for, determining how much is needed Charts, posters, filmstrips on buying food Trip to a food market

HOME ARTS (continued)

Performance Objectives	Learning Activities
Foods - Level III (cont.)	
Food Preparation	
Review Levels I and II	Extend experiences in Levels I and II
Preparing easy food products	Practice preparing foods listed
Snacks Sandwiches	Charts, posters on easy foods to prepare
Beverages Desserts	Name and discuss
Simple meals	Discuss patterns for simple meals; plan suitable combinations
Understanding basic patterns for simple meals	Prepare and eat different types of foods prepared
Breakfast Lunch Dinner	Use picture cook book with recipes for foods to be prepared
Planning simple meal combination	
Preparing foods for different meals	
Learning to eat different types of foods properly	
Food Service	
Review Levels I and II	Extend experiences in Levels I and II
Serving family meals	Demonstrate and practice method of serving foods prepared
Use of a tray Serving and removing dishes	Discuss types of meal service used
Types of meal service	Charts, filmstrips on kinds of service
Clean up after Meal	
Review Levels I and II	Extend experiences in Levels I and II
Using automatic dishwasher	Demonstrate and practice rules for using automatic dishwasher; scraping, rinsing, stacking in washer; storing after washing

HOME ARTS (continued)

Performance Objectives	Learning Activities
Clothing - Level I	
Knowledge of Clothing	
Identification of articles of clothing Headgear Undergarments Outergarments Footwear	Identify articles of clothing by use of pictures, paper dolls, cut-outs Real clothes on pupils, teacher; doll and doll clothes Use filmstrips, songs, fingerplays about clothes Use above and practice classification according to use
Care of Clothing	
Caring for clothing while worn Examine seats before sitting Smooth skirts, jackets before sitting down Protect by using napkin, apron	Demonstrate and practice minimal care named Use doll clothes, samples of children's clothing Charts, posters illustrating care; filmstrips, movies Make daily personal guide for class to follow
Clothing Construction	
Manipulating laces and yarns Threading beads Lacing cards Running stitch Overcast stitch Sewing cards Running stitch Overcast Blanket stitch Large weave mesh Running stitch Overcast Blanket stitch Cross stitch	Identify laces and yarns for sewing, sewing cards Demonstrate and practice threading beads; making basic stitches named on lacing cards Complete designs on sewing cards and/or large weave mesh
Buying Clothes	
Knowledge of Clothing - Level II	
Review Level I Proper selection of clothes. Classify appropriate clothing for various occasions	Review all learnings and experiences in Level I Practice classifying clothing for various occasions Use pictures, paper dolls, dolls, samples of clothing

HOME ARTS (continued)

Performance Objectives	Learning Activities
Clothing - Level II (cont.) School Play Dress Church Underwear Bedclothes Weather	
Care of Clothing Review Level I	Review all learnings and experiences in Level I
Caring for clothing after removing	
Daily care of clothes Remove carefully and change Hang up Brush Place soiled clothes in hamper Polish shoes Weekly care of clothes Examine to see what care is needed Put non-washable in cleaners Separate white and colored Spot removal Press wrinkles Iron flat pieces Folding Seasonal care of clothes Storing properly Hang in clothes bag Fold and put in chests Use of moth balls	Discuss daily care of clothing. Practice steps listed for daily and weekly care of clothes on real clothes Discuss seasonal care. Demonstrate steps in storing clothes

HOME ARTS (continued)

Performance Objectives	Learning Activities
Clothing - Level II (cont.)	
Clothing Construction Review Level I	Review all learnings and experiences in Level I
Sewing by hand Cleanliness and neatness in sewing Position for sewing Identification and proper use of hand sewing tools Threading needle Tying knot Simple stitches (practice) Running Overcast Blanket Outline Cross (can be done on lacing or sewing cards, mesh) Using stitches to make simple projects Coasters Purses Cosmetic bags Picture frames Using stitches to make a simple garment Head scarf Blouses Skirt Apron	Demonstrate and practice correct position for hand sewing Identify and practice use of basic tools Practice threading needles, making knots Practice making simple stitches on samples of fabrics Complete simple projects and garments by hand sewing
Buying Clothes	

HOME ARTS (continued)

Performance Objectives	Learning Activities
Clothing - Level III	
Knowledge of Clothing Review Levels I and II	Review all learnings and experiences in Levels I and II
Coordinating clothing - Matching clothes Colors Designs and patterns Becomingness	Use pictures, paper dolls and clothes to practice correct matching
Care of Clothing Review Levels I and II	Review all learnings and experiences in Levels I and II
Laundering Cleaning washable clothing Wash by hand Sorting Treating blood stains Using detergents and bleach Fabric softeners Drying clothes Hanging clothes on line Using automatic clothes dryer Ironing Safety Temperature Spray starch Sizing Storing clothes In drawer sorting folding In closet on clothes hanger on skirt racks Using automatic washer	Discuss and practice methods of laundering clothes as listed

HOME ARTS (continued)

Performance Objectives	Learning Activities
Clothing - Level III (cont.)	
Making repairs to clothes Sew on buttons, snaps, hooks Darn holes Sew hems, broken seams Use mending tape	Practice making minor repairs to clothes as listed Use clothes of pupils or samples
Clothing Construction	
Review Levels I and II	Review all learnings and experiences in Levels I and II
Sewing by machine Knowledge of machine parts and purpose Care of machine Threading the machine Practice for accurate machine stitching Preparation for garment construction determining size selecting a pattern studying the pattern pinning cutting marking stitching fit evaluation	Demonstrate and practice parts and use of the sewing machine Demonstrate opening and closing machine, controlling speed, winding bobbin, threading machine Practice steps in use of machine and stitching Display samples of good and poor stitching Discuss safety and care of machine Charts on threading, cleaning, winding bobbin
Buying Clothes	
Factors to consider when buying clothing Need Amount to be spent Size and fit Becomingness Color and design Style Coordinative ability Construction Wide seams sewn tight Deep hems Fasteners on	Discuss factors named Role-play making clothing purchases

HOME ARTS (continued)

Performance Objectives	Learning Activities
Clothing - Level III (cont.)	
Care needed	
Washable	
Dry-cleanable	
Bargains and sales	
Labels	

THINGS TO MAKE

A. Simple Stitchery

- Coasters
- Placemats
- Picture frames
- Felt appliques or burlap
- Pincushions
- Felt projects
    - eyeglass case
    - comb case
    - purse
    - potholders
- Wash cloths
- Embroidered objects
    - hand towels
    - dish towels
    - toaster covers
    - potholders

B. Simple Hand Sewn Garments and Projects

- Aprons
- Potholders
- Laundry bags
- Cosmetic bags
- Pillows
- Stuffed toys

C. Projects and Garments Made by Machine

- Pillows
- Dresser Scarf Set
- Stuffed Toys
- Tote Bags
- Triangle Headscarf
- Gathered Skirt
- Apron and Potholder
- Blouse
- Wraparound Dress

HOME ARTS (continued)

Skill and Activity	Materials and Directions
Simple Stitchery (starred items can be made by hand or by machine)	
Pincushion	1 piece of material 5" in diameter 1 - 1½" diameter styrofoam ball Needle and thread Cut out a circle pattern--turn under a 1/8" hem and run a row of gathering stitches around the outside edge of the circle--fit over the ball and flat part of the surface of the ball--then pull together and knot thread securely.
*Pincushion This can become a beanbag by stuffing with beans or old nylon stockings	2 pieces of material any size 4"-5"-6" Stuffing can be (1) foam; (2) styrofoam; (3) soap Pattern precut from newspaper Make a pattern--shape can be any size--use animals, fruits, etc. Cut 2 of the materials sew ¼" around and leave bottom open--turn inside out--stuff and sew bottom with a casting stitch.
*Bib	1 wash cloth or 1 piece of vinyl felt for decorations--ribbon Overlap cloth 1/4 of the given size. Cut a half circle in neck area. Sew with simple stitch, turn inside out--attach ribbon to end of neck indentation and sew on felt designs if desired --pockets can be attached at the bottom.
Applique	Cut out a shape--design and sew on to towel, washcloth, sheet, scarf, etc.
Dust Cloth	Flannel or similar material 1/8 yd. Sew hand (mitten) on to cloth--when using put hand in mitten.

HOME ARTS (continued)

Skill and Activity	Materials and Directions
Simple Stitchery (cont.) (starred items can be made by hand or by machine)	
*Pillows	2 wash cloths or 2 pieces material 9"x9" Stuffing--felt There are several ways to make pillows. Cut out a specific shape--perhaps a mod design or leave them as they are--sew 3 sides--stuff. Sew remaining side or applique shapes on the material. Then sew and stuff or applique shapes or initials. Then sew 3 sides. Do not stuff - put snaps on 4th side and you have a P.T. Bag. Shapes--toys, fruits, animals, stop sign, mod signs
Aprons	Simplicity pattern #7411 McCall Pattern #9693 or 9694 or a simple pattern made of burlap or vinyl Gather and attach ties. Fringe if desired. Applique if desired.
Beach Coat	2 towels--according to child's size Sew towels 4" across top from both sides--sew 4-6" from top down sides.
Wallhanging	Burlap, felt, yarn or pearl cotton Just practice all the simple stitches and frame this or hang it. It can be very attractive if done in many combinations.
*Wraparound Skirt	Simplicity pattern #8100--plus others. This will hold together nicely if sewn by hand.

HOME ARTS (continued)

Skill and Activity	Materials and Directions
Simple Stitchery (cont.) (starred items can be made by hand or by machine)	
Placemats	Burlap or gingham 12"x18"--felt, yarn According to your specific skill, stitch or applique a design on a precut 12 x 18 piece of material.
Napkins	Gingham 12"x12" makes 1 napkin Pearl cotton Turn ¼" hem and sew with contrasting colors
A Growing Chart	Felt - 2 pieces 36" x 10" Assorted felt, pearl cotton Cut material to 36 x 18 size, then sew 2 pieces together lengthwise--measure and stitch up the one side 2" from end--a straight stitch--then label inches and feet--applique the other space or else make it 36"x5"
Puppet	Felt and assorted materials. You can use scraps. Cut a puppet shape, give it a personality by sewing on eyes etc. to front side--then sew front and back together leaving bottom open.
Belts	Burlap or vinyl 40"x2" or 4" Cut burlap to the above size or longer if waist is over 26"--then sew assorted simple stitches on material 1/2" on both edges--fringe bottom
Potholders	2 pieces of material 4"x4" 1 curtain ring

HOME ARTS (continued)

Skill and Activity	Materials and Directions
Simple Stitchery (cont.) (starred items can be made by hand or by machine)	
	Use heavy quilt material or use 4 pieces of 4"x4"--sew together on 3 sides--turn inside out--sew bottom and attach ring or use casting stitch all around
	4 strips of 4" x 2" materials 1 curtain hook
	Sew patches of material together
*Mits (oven)	2 pieces of material (preferably quilted) 6"x7" 1 curtain hook
*Mits (bath)	2 pieces of sponge (thin) cut 6"x7" 1 hook
	Cut out hand shaped pattern 6"x7" Sew together 2 shapes - attach hook - you can also sew on binding
Scarf or Rain Hat	1/2 yd. of 36" wide material makes 2 hats Make a triangle pattern out of 2 of these and 2 ½" wide 6" long ties--cut with pinking shears--stitch around edges and stitch ties on the corners (for rain hat use vinyl) You can decorate with a variety of stitches
*Coat Hanger Covers	12"x18" pieces of felt or thin sponge - plain hangers
	Make a full size pattern by folding a piece of the material--cut 2 of these, pin together and stitch across the top leaving a ¼" opening at the center top for hook--insert hanger

HOME ARTS (continued)

Skill and Activity	Materials and Directions
Simple Stitchery (cont.) (starred items can be made by hand or by machine)	
*Slippers	2 wash cloths 3/4 yd. of 1/2" ribbon or cording Place a wash cloth with one corner facing you. Fold over right and left corners to meet at center. Sew edges flat with loose stitches--then stitch 1/2" casing at folded edges--draw a cord through casing and whip stitch both at both ends.
*Toaster or Mixer Covers Bird Cage Cover	3/4 yds. of material Pattern for design of appliance or cage Cut out 2 of each part of pattern--sew together--turn inside out and hem bottom edge.
Night Stand and Chair Cover	If you want an extra chair--cover a pillow and put it on an orange crate. If you are a girl cut a piece of material 36" x 36"--gather it and hem it for a little night stand
Yardstick Case	38" x 2" - 2 pieces--preferably burlap or felt Sew 2 pieces together on bottom and 36" up. Sew 1/4" from edge.
Headbands	Use any material 3" x 10", elastic Cut material--turn over 1/2" hem on both edges--then attach elastic to the small edge or cut a piece of material 3" x 10" fringe and use stitch running through it. Attach elastic. or Cut 3" x 18"--fringe or stitch 18" hem and 3" hem then tie on head.

HOME ARTS (continued)

Skill and Activity	Materials and Directions
Simple Stitchery (cont.) (starred items can be made by hand or by machine)	
Terry Cloth Cobblers Apron	1 terry bath towel 21" of bias tape Fold the towel across the width 16" from 1 end Cut a 10" slit along the folded line of the towel and bind it with bias tape--use an overcasting stitch. Sew 2 button on the front and loops on the back Fold over a 4" piece of towel at bottom and sew with a running stitch at the sides of towel and in middle.
Veil Hat	7/8 yds. of veiling 1¼ yds. of narrow ribbon Fold the veiling in half and sew the ends together--then gather it at the top with a running stitch--cut the velvet or other narrow ribbon 7" pieces and make little bows and attach on the seams.
Pocketbook	A circular piece of heavy fabric (felt) 25" in diameter, a 6" diam. piece of cardboard 30" of ribbon (grosgrain) Glue the cardboard to the center of the felt. Cut little 1/2" slits 1½" from edge every 2". Attach safety pin to ribbon and pull through and tie.
*Poncho (for younger child)	1 bath towel 3¼ yds. bias tape 2½ yds. of cable cord

HOME ARTS (continued)

Skill and Activity	Materials and Directions
Simple Stitchery (cont.) (Starred items can be made by hand or by machine)	
	Fold towel to form square. Cut and (bind) edge with bias tape or trim. Cut and bind 6-7" opening for head Use remaining portion of towel--stitch hood to fit
Shoe-Shine Clown	Felt 8" x 5", 5 x 5" pieces of yarn or pearl cotton--large eyed needle Cut the larger piece of felt into an oval shape for the bottom of the clown--cut one end of the smaller piece of felt into an oval shape for the clown's face. Attach eyes, nose and mouth with glue. Put the 2 pieces together and sew with an overcasting stitch --slit at the top and put a piece of yarn for a hook.
Projects to be Sewn by Machine--note the starred items on Simple Stitchery Projects	
Shoe Bag	2 yds. of heavy material (vinyl) Cut one piece of material--24 x 36". -- cut 4 strips 28" x 6"--sew on to first piece leaving pockets
Aprons	See patterns: McCall 9693, 9694
Shifts	Simplicity 9689, McCall 9119
Robe (adult--female)	3 bath towels 5 yds of grosgrain ribbon Cut 1 bath towel in half lengthwise for front(right and left)- A Stitch towel C to form the back to the part of A

HOME ARTS (continued)

Skill and Activity	Materials and Directions
Projects to be Sewn by Machine (cont.)	
	For sleeve and yoke fold towel B selvage to selvage--slit for neck 7" and front--stitch yoke to meet underarm seams--adjust length and attach to C and A. Bind neck and front.
Pajamas	See pattern books for recent simple gown and pajama patterns
Skirts	Simplicity 8100-wraparound McCall 6665
Shifts	Simplicity 5402 McCall 9119 - 3 armhole shift--no zipper Simplicity 9689 - no zipper
Jacket - vest type	Simplicity 6738
Shorts - Bermudas - Slacks	No zipper - use elastic - see pattern books
Toddler Clothes	McCall 2124 and 9449
Purse or Beach Bag	1 yd. of burlap 1 yd. of lining
	Cut out a pattern according to size you desire - then cut 2 of these of each type of materials, then sew right sides together of burlap - sew sides, do the same with lining - insert lining in burlap, then sew handle part--bend under ¼" both materials. Add pockets if desired.
	Write to: Cannon Homaking Service 1271 Avenue of the Americas New York, New York 10020
	They have several patterns and ideas.
Sleeping Bag	2 bath towels Slide fastener - lining if desired

HOME ARTS (continued)

Skill and Activity	Materials and Directions
Projects to be Sewn by Machine (cont.)	
	Sew 2 towels selvage to selvage--insert slide fastener along bottom and on long side, so fastener opens from top. Cut lining size of towels, seam on long side. Turn under raw edges; slip stitch to towels. Preshrinking towels is important.
Quilt	Scraps cut into 4" squares--cut as many as needed for desired size Binding--bias tape
Toaster Cover	2 pieces of material 10" x 7" 1 piece 24" x 6½" 4" ribbon The long piece will be for the top of the toaster and the smaller pieces will be for the sides. Sew sides of one of the small pieces to side. When all sides are together hem the toaster cover. On the top of the toaster sew on your piece of ribbon which will serve as a loop to remove cover.
Odds and Ends Bag	2/3 yds. of denim 36" wide Red bias tape 1 coat hanger Fold the denim so it is 18 x 24" --make an 8" slit on one side and bind it off with the piece of red bias tape. Sew all 3 sides, except for a 2" portion in the middle on the wrong side--put the hanger through the large slit and pull the hook of the hanger through the 2" slit, then the bag is finished.

APPENDIX F

TEACHER'S GUIDE
FOR
PHYSICAL EDUCATION
TRAINABLE PROGRAM

BALTIMORE CITY PUBLIC SCHOOLS

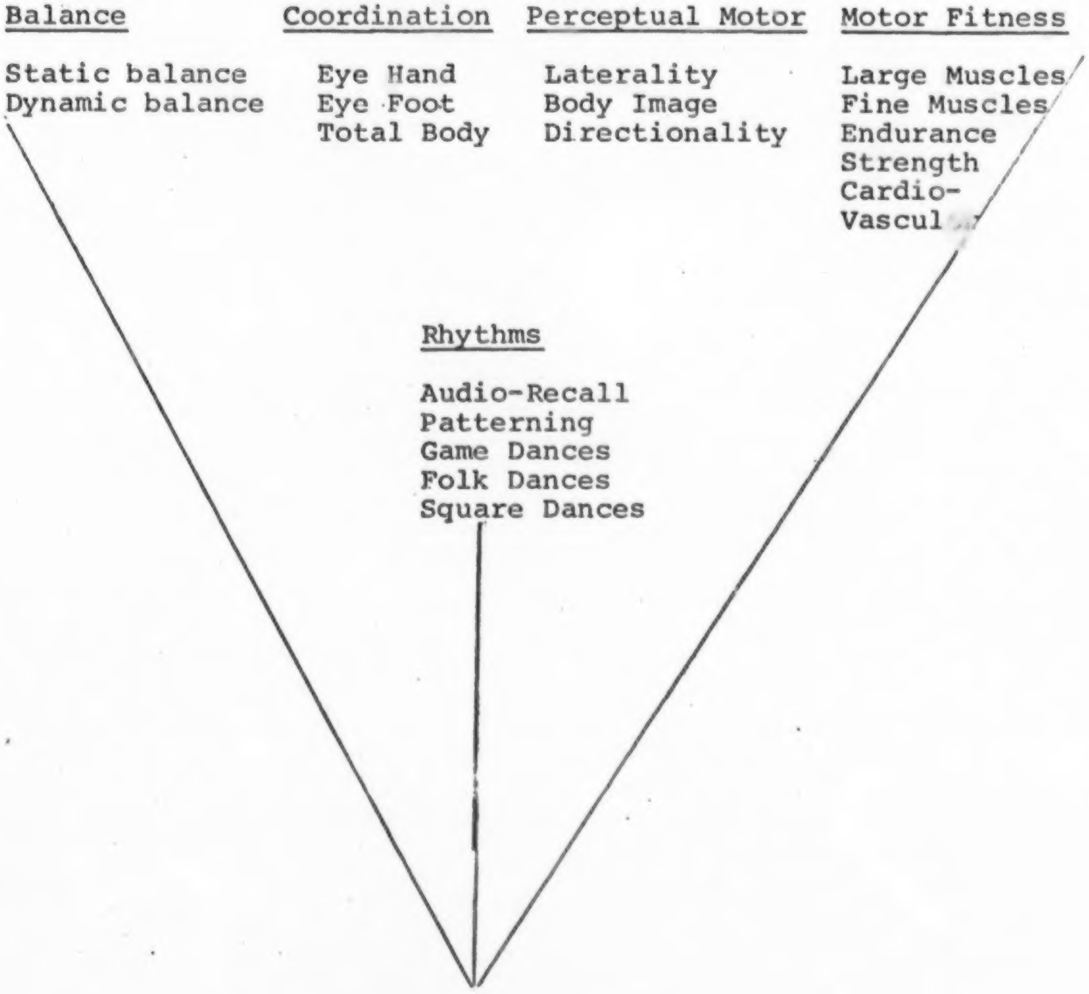
TEACHER'S GUIDE FOR PHYSICAL EDUCATION TRAINABLE PROGRAM

INTRODUCTION

We have learned that most trainable retardates lack some basic skill or concept that is essential to many activities or games. Many motor skills and abilities that most children learn from the association and play with the "gang" on the block must be taught to the retarded. Children who display learning disabilities need learning activities that involve motor learning and the development of more adequate motor responses.

In order to put the child in a situation to achieve the optimum level of physical and motor development, some categories are developed on the following pages limited primarily to activities promoting fundamental motor development. Only after a basic level of motor proficiency is attained can organized games be used to realize their full potential as important contributors in the education of the mentally retarded.

GROUP ORGANIZATION OF ACTIVITIES AND CONCEPTS



Balance	Coordination	Perceptual Motor	Motor Fitness
Static balance	Eye Hand	Laterality	Large Muscles
Dynamic balance	Eye Foot	Body Image	Fine Muscles
	Total Body	Directionality	Endurance
			Strength
			Cardio- Vascul[illegible]

Rhythms

Audio-Recall
Patterning
Game Dances
Folk Dances
Square Dances

LOW ORGANIZATION GAMES

INDIVIDUAL SPORTS

TEAM SPORTS

PHYSICAL EDUCATION

Performance Objectives	Learning Activities
Body Image	Touch all body parts Touch body parts on another child Touch body parts Touch body parts to objects (knee to floor etc.) Touch body parts to other body parts (knee to nose, etc.) With a partner: Stand face to face Stand back to back Stand side to side Busy Bee--on this signal children run to a new partner Materials and Equipment: None On a mat or mark on floor, follow the verbal direction of teacher Put your elbow on the floor Sit with your back to me, etc. Busy Bee--on this signal run to a new mat Materials and Equipment: Mat or Tape With a chair Put your back to the chair's back Face the chair Stand beside the chair, etc. Busy Bee--run for a new chair Materials and Equipment: Chairs Pictures Cut out pictures from magazines of feet, legs, arms, hands, fingers, heads, etc. Give each child a picture and say "Can yours hands look like the hands in the picture?" Materials and Equipment: Pictures
Eye Hand Coordination Visual tracking Laterality	Balloons Give each child an inflated balloon and a mark on the floor to stand--have the child hit the balloon up in the air with Both hands Alternate hands

Performance Objectives	Learning Activities
Eye Hand Coordination (cont.)	
	Right hand Left hand Hit in the air and let the balloon get almost to the ground before catching Hit in the air and turn around and catch Hit in the air and go down on one knee and catch Move children into a circle and let the teacher hit the ballon and call a child's name. The child must run in and catch the balloon. Depending on the age of the child let the children hit the balloon and call the name of another child
	Materials and Equipment: Balloons
Low level organization	Bowling Lead Up Games Circle bowling Let the children stand in a circle formation and set one pin in the center of the circle on a tape mark. Pass the ball around the circle and let each child try to knock the pin down. Each child will set the pin up if he knocks it down. Set two pins different distances apart and let the children try to roll the ball through the pins. Pieces of paper may be awarded if the child accomplishes the task. (Points) At the end of the activity let the child count his points and tell how many he has. Bowling Set the pins on the floor under tape marks. Let each child roll the ball--tell you how many he knocked down--set up his own pins. You may keep score--stress staying in line taking turns--fair play.

PHYSICAL EDUCATION (continued)

Performance Objectives	Learning Activities
Eye Hand Coordination (cont.)	
	Materials and Equipment: Balls and Pins
Throwing ability	Scoops

Scoops may be made from plastic bottles or bought already made. Give each child a scoop and a partner. Have the children toss the beanbag:

- Toss to partner using your hand to throw beanbag
- Toss beanbag from one scoop to another (hand doesn't touch beanbag)
- Toss beanbag to each other high and low
- Go down on one knee to catch beanbag

Variations: Move the children to a circle position and let the teacher throw the beanbag and call a name.

Paper ball made from newspaper or yarn balls may be used.

Depending on the ability of the child, you may give the child a color, number, etc., then call his color when he is to run in and catch the beanbag. Teacher throws.

Materials and Equipment: Scoops and Beanbags

Shuffleboard

Teach the child the care of the equipment.

Teach the child to push the disc.

- Let the child push the disc through two pins set at varying distances apart.
- Keep moving the pins closer together until there is only one pin and the child trys to knock it down. Start with the child close to the pin--move him back as his ability increases. The shuffleboard stick is too long for small children to handle.

Performance Objectives | **Learning Activities**

Eye Hand Coordination (cont.)

Materials and Equipment: Shuffleboard Sticks, Shuffleboard Disc, Pins

Low organization

Batting
- Teach the child how to hold the bat.
- Teach the child how to swing a bat.
  - Using the plastic bat and ball, let each child have a turn of hitting the ball off the stand. Other children may be in front of the batter trying to catch the ball. Start with one base after the children learn how to hit the ball. Let the children hit and then run to first base. The teacher must use her judgment in adding bases etc. The class progress will determine how far the teacher may go.

Materials and Equipment: Safety Bat and Ball

Ball Skills
- Let the child get the feel of the ball by handling
  - Spank the ball
  - Walk fingers on top of the ball
  - Roll ball under legs
- Rolling
  - Sit and roll the ball to the wall
  - Kneel and roll the ball
  - Stand and roll the ball
- Throwing
  - Underhand throw to wall
  - Overhand throw to wall
  - Throw at spot on the wall
- Catching
  - Start with a soft object (paper or yarn ball)
  - Roll to a partner
  - Throw to a partner
- Bouncing
  - Stand still and bounce with both hands

PHYSICAL EDUCATION (continued)

Performance Objectives	Learning Activities
Eye Hand Coordination (cont.)	

Stand still and bounce with one hand
Walk and bounce ball forward
Walk and bounce ball backward
Kneel and bounce ball
Turn around while bouncing ball
Sit and bounce ball (advanced)
Lie down and bounce ball (advanced)
Roll the ball and have the children run in front of the ball to catch it

Materials and Equipment: Balls

Horseshoes
Teach the underhand toss of the horseshoes
Toss to the pole, points for ringing
Vary the distance of throw

Materials and Equipment: Horseshoe Set

Cane
With the children in a circle--Stand a stick straight up on the floor. Call a child's name and let go of the stick--the child must catch the stick before it hits the ground. Points may be given.

Materials and Equipment: Short pole or cane

Deck Tennis Rings
Toss the ring in the air and catch
Toss ring to a partner
Catch the ring by letting it go down the arm
Toss the ring over the leg of a chair (turned upside down)
(Good lead up for horseshoes)

Materials and Equipment: Rubber Rings

PHYSICAL EDUCATION (continued)

Performance Objectives	Learning Activities
Eye Hand Coordination (cont.) Body Image Rhythms	Pie Plates With the teacher as the leader have the children hit different parts of their body following your actions, (elbows, head, knees, etc.). Try to maintain a rhythm. Children must be encouraged to look and follow you. Materials and Equipment: Aluminum Plates
Eye Hand and Foot Coordination Body Image Laterality	Punch Balls Hang punch balls from a rope or ceiling and have the children hit the ball with Right hand Right foot Left hand Left foot Alternate hands Alternate feet Both hands Both feet Head Elbows Ears Fingers Knees (standing) Feet (standing) In a bear walk position look back between legs and kick the ball. Let the children make up new ways. The balls may be set at different heights to vary the pattern--also let the children sit, stand, kneel, or lie to vary the activity. Materials and Equipment: Punch Balls
Eye Foot Coordination Visual tracking Laterality	Kicking Plastic Bottles Give each child a plastic bottle --have the child kick the bottle with Right foot (standing close to bottle) Left foot (standing close to bottle)

PHYSICAL EDUCATION (continued)

Performance Objectives	Learning Activities
Eye Foot Coordination (cont.)	Right foot (standing with back to bottle) Left foot (standing with back to bottle) Side of foot (right and left) Run up and kick the bottle (right and left) Drop the bottle and kick before it hits the ground Throw the bottle with the right and left hand (underhand and overhand) Be sure that all children are kicking the same direction and that no bottle is retrieved before all children have kicked. Materials and Equipment: Plastic Bottles
Jumping Figure Ground Relations Balance	Hoops Jump in and out of the hoops using various floor patterns. Crawl through hoops Jump forward-backward-sideways Materials and Equipment: Hoops
Jumping Figure Groud Relations	Give each child a jump rope and room on the floor to lay it straight Jump over the rope forward Jump over the rope backwards Jump over the rope sideways Jump over the rope crisscrossing legs Walk on top of a straight rope Walk on top of a curved rope Depending on the ability of the child--teach to jump like a jumping rope--start with the teacher turning the rope. Stress landing with feet together, landing on toes, maintaining balance. Materials and Equipment: Ropes

PHYSICAL EDUCATION (continued)

Performance Objectives	Learning Activities
Large Muscle Activity Right and Left	Chairs Arrange chairs in two rows Have children run around chairs on your signal (hold up right hand when running to the right and left hand when running to the left) Run to the chair directly across from when the signal is given Step up and down in chair while holding on to back Do exercises while holding on to chair (leg lift, straddle jumps, etc.) Sit in the chairs all different ways following the teacher In a circle formation lift the chairs for arm strength (older children) Materials and Equipment: Chairs
Body Image Form Perception	Play Tubes Give each child a tube and a place on the floor Follow the teacher stepping through, over, under, etc., the tubes Exercise with the tubes (jumping jacks, leg lifts, sit ups, etc.) Make forms in the air or on the ground Materials and Equipment: Play tubes or sticks (long)
	Tug of War With a long rope have the children pull until the other side crosses a certain mark on the floor. You must have a stopping place or signal. Materials and equipment: Large Rope

PHYSICAL EDUCATION (continued)

Performance Objectives	Learning Activities
Large Muscle Activity (cont.)	
Eye hand coordination	Cage Ball With the children in a circle Hit the ball with the hand not letting it out of the circle Sitting--kick the ball with the feet Play dodge ball with someone inside the circle (much safer than with a smaller ball) Materials and Equipment: Cage Ball
Body Image	Circle Rope Standing in a circle holding the rope Walk backwards--forward Touch the rope to the floor, knees, chest, and over the head Kneeling touch the rope to the floor, chest, and over the head Sitting with the feet straight out in front, touch the rope to the toes, knees, chest, and overhead Pull rope to chest and lie down Pull rope over head and lie down Materials and Equipment: Circle Rope
Motor Perception	Magic Stretch Rope With two people holding the rope about one foot off the floor Crawl under the rope without touching it Crawl over the rope without touching it Double the rope and crawl between the ropes without touching them Go over one rope and under the other without touching Jump over the rope (raise or lower according to ability) Materials and Equipment: Long Stretchy Rope

PHYSICAL EDUCATION (continued)

Performance Objectives	Learning Activities
Large Muscle Activity (cont.)	
Body Image	Scooter Boards Sit on the scooter and push or pull down the floor using only the feet Let your partner sit on the scooter and push him down the floor Lie on stomach and pull or push using only arms Put only hands on scooter and push it down floor Crab walk with feet only on scooter Seal walk with feet only on scooter Kneel and push on scooter Relay races (older children) Let children invent ways to move scooters
	Materials and Equipment: Scooter Boards
Motor Perception Visual Memory	Physical Educator Ladder Climb Sit Ups (Hook feet under) Put leg through ring and lean backwards Rope Climb (Do not slide down) Dead Man's Lift (Pull self up not using legs) Swing Pole Climb and slide down Rings Swing (Bend arms) Put feet in rings Skin the cat Basket hang Try to straighten one arm with self suspended in air Trapeze Swing Hang by legs Hang by one leg Pull up and sit on bar

PHYSICAL EDUCATION (continued)

Performance Objectives	Learning Activities
Large Muscle Activity (cont.)	Hand walk along top of physical educator Forward and backward--turn around Materials and Equipment: Physical Educator
Motor Perception	Mat Work Pencil roll Crawl down mat Walk on knees down mat Pull with arms down mat in sitting position (do not use legs) Pull down mat lying on stomach (do not use legs) Lie on stomach, use no arms and wiggle down mat Fold mats up and jump off forward and backward Follow teacher movements (exercise, kicking feet, etc.) Materials and Equipment: Mat
Form Perception	Form Perception - Have large pieces of paper with forms on them: X O + etc. Put the paper on the floor and have the children jump over all the X's or O's. Tape the paper on the wall and have the children run and touch the various forms. (can make into a race for older chidren) Increase the number of forms they must touch. Put forms in a circle, and have the children walk around the circle. On signal they stop --have all the ones standing by X sit down, etc. Make the form in the air with their hands. Materials and Equipment: Paper with forms on them (Large)

Performance Objectives	Learning Activities
Rhythms	Rhythms Beat a rhythm and have children walk to it. Exercise to music Game Dances Simple folk dances Start with no partner dances and progress according to class. Teach separate parts of dance first. Materials and Equipment: Drum Records
Laterality	Right and Left - Have children lie on mat--on one wall put red R on the other wall put a blue L Look at the red paper--now blue Raise arm nearest red paper Raise leg nearest blue paper Raise arm and leg closest to blue Raise arm nearest blue and leg nearest red Advance until you are saying right arm and left leg Materials and Equipment: Mats, Colored Paper, Letters L and R
Balance Motor Perception Listening	Walking Stress that children must not touch each other while walking. Walk to beat and stop when sound stops Walk fast--slow to beat Walk and make yourself high Walk and make yourself low When the sound stops make yourself small When the sound stops make yourself tall or big Walk up and down steps without looking down. Only one foot on a step at a time. Materials and Equipment: Drum Static Balance Mats or Mark Stand on mat and balance-- Both feet apart

Physical Education (continued)

Performance Objectives	Learning Activities
Balance (continued)	
	Feet together On right foot On left foot On knees Three point stance (Knees-one hand On one leg go down and touch body parts to floor (hand, finger, nose) Touch different body parts while maintaining balance
	Balance Boards Set the boards low and do the above in mat static balance Set the boards high and do the above in mat static balance
	Balance Platforms Stand on platforms and maintain balance while Platforms do not touch anywhere on floor Making platforms touch sides, back and front Toss ball or ring to child on board Bounce balls while on platforms Balance on one leg
	Materials and Equipment: Flat Mat or Mark on floor, Balance Boards, Balance Platforms
	Dynamic Balance Tape Mark Walk on top of tape mark on floor Walk between two tape marks on floor Rope Walk on top of short straight rope Walk on top of curved rope Walk between two ropes Balance Beam Walk forward Walk backward

Physical Education (continued)

Performance Objectives | Learning Activities

Balance (continued)

- Walk sideways
- Walk stepping over objects
- Walk to center and stop--touch all body parts
- Walk to center and stop--toss rings or ball

Ladder
- Put a ladder flat on the floor and have the children walk:
- Stepping between rungs
- Stepping on rungs
- On sides of ladder
- On sides of ladder with feet and hands
- Turn ladder on side and have children crawl through

Inner Tube
- Walk on top of inner tube
- Jump in and out
- Crawl through

Stilts
- Walk using only one
- Change feet using just one
- Stand still and balance on two
- Walk with both feet in stilts
- Walk in circle on stilts
- Walk backwards
- Walk stepping over ropes (advanced)
- Walk up steps (advanced)

APPENDIX G

Table G1

List of Variables with Their Identification Numbers
Trainable Mentally Retarded Staff Deployment Project

Number of Variable	Name of Variable
1	Pre-test Auditory Reception Score, Illinois Test of Psycho-Linguistic Ability
2	Pre-test Visual Reception Score, Illinois Test of Psycho-Linguistic Ability
3	Pre-test Auditory Memory Score, Illinois Test of Psycho-Linguistic Ability
4	Pre-test Visual Association Score, Illinois Test of Psycho-Linguistic Ability
5	Pre-test Manual Expression Score, Illinois Test of Psycho-Linguistic Ability
6	Post-test Auditory Reception Score, Illinois Test of Psycho-Linguistic Ability
7	Post-test Visual Reception Score, Illinois Test of Psycho-Linguistic Ability
8	Post-test Auditory Memory Score, Illinois Test of Psycho-Linguistic Ability
9	Post-test Visual Association Score, Illinois Test of Psycho-Linguistic Ability
10	Post-test Manual Expression Score, Illinois Test of Psycho-Linguistic Ability
11	Pre-test I.Q. Score, Peabody Picture Vocabulary Test
12	Post-test I.Q. Score, Peabody Picture Vocabulary Test
13	Pre-test Kappitz Human Figure Drawing Test Score
14	Post-test Kappitz Human Figure Drawing Test Score
15	Net Gain Score (Post-test -Pre-test) Auditory Reception, ITPLA
16	Net Gain Score (Post-test -Pre-test) Visual Reception, ITPLA

Table G1 (continued)

List of Variables with Their Identification Numbers
Trainable Mentally Retarded Staff Deployment Project

Number of Variable	Name of Variable
17	Net Gain Score (Post-test -Pre-test) Auditory Memory, ITPLA
18	Net Gain Score (Post-test -Pre-test) Visual Association, ITPLA
19	Net Gain Score (Post-test -Pre-test) Manual Expression, ITPLA
20	Net Gain Score (Post-test -Pre-test) I.Q., PPVT
21	Net Gain Score (Post-test -Pre-test) Kappitz Human Figure Drawing

Table G2

Pre-test Data on ITPLA for Trainable Mentally Retarded Staff Deployment Project School #307

Auditory Reception		Visual Reception		Auditory Memory		Visual Association		Manual Expression	
Value	No. of Cases	Value	No. of Cases	Value	No. of Cases	Value	No. of Cases	Value	No. of Cases
03	1	04	1	02	1	05	1	08	1
04	1	06	1	03	2	06	1	09	2
05	1	07	3	04	2	07	2	11	1
06	3	08	4	05	3	08	3	12	1
07	2	09	4	06	2	09	3	13	2
08	2	10	8	07	6	10	4	14	1
09	1	11	4	08	4	11	1	15	1
10	2	12	1	09	5	12	2	16	3
11	4	13	4	10	6	13	2	17	6
12	2	14	2	11	4	14	4	18	9
13	5	15	3	12	4	15	3	19	8
14	4	16	4	13	2	16	3	20	7
15	4	17	4	14	4	17	3	21	7
16	6	18	3	15	6	18	7	22	5
17	7	19	10	16	2	19	10	23	4
18	5	20	3	17	3	20	8	24	4
19	2	21	3	18	2	21	6	25	6
21	2	22	7	19	3	22	5	26	2
22	4	23	1	20	2	23	2	27	2
23	1	24	1	21	3	25	3	28	5
24	2	25	3	22	1	27	1	29	2
25	1	26	4	23	2	30	1	30	2
26	2	28	2	24	1			36	1
27	2	30	2	26	2				
28	1			27	1				
31	3			28	1				
32	1			36	1				
33	1			37	2				
34	1								
35	2								
36	2								
37	1								
38	1								
39	1								
42	1								

Table G3

Post-test Data on ITPLA for Trainable Mentally Retarded Staff Deployment Project School #307

Auditory Reception		Visual Reception		Auditory Memory		Visual Association		Manual Expression	
Value	No. of Cases	Value	No. of Cases	Value	No. of Cases	Value	No. of Cases	Value	No. of Cases
02	1	02	1	04	4	01	1	11	1
03	1	06	1	06	1	02	1	12	2
06	2	07	4	07	1	04	2	13	2
08	2	08	4	08	1	05	1	14	3
11	2	09	3	09	2	08	2	15	1
12	2	10	3	11	1	10	1	16	3
13	1	11	1	12	2	11	1	17	2
14	1	15	1	13	4	12	2	18	2
15	3	16	3	15	1	13	4	19	1
16	2	18	3	16	5	15	2	20	2
17	5	19	4	17	5	16	2	21	2
18	2	20	2	18	2	17	4	22	1
20	3	21	2	19	3	18	3	24	2
21	2	22	1	20	3	19	3	25	4
23	1	24	4	24	1	20	3	26	3
24	2	25	4	25	2	21	5	28	1
26	1	26	1	30	1	22	2	29	1
27	1	28	1	31	2	23	2	30	2
28	1	34	1	32	1	24	2	31	4
31	2	36	1	35	2	26	1	32	1
33	1					31	1	33	2
35	2							34	1
36	1							36	1
37	1							37	1
38	1								
39	1								
44	1								

Table G4

Data on Peabody Picture Vocabulary Test for Trainable Mentally Retarded Staff Deployment Project School #307

Pre-test I.Q.		Post-test I.Q.	
Value	No. of Cases	Value	No. of Cases
10	2	10	2
14	2	12	1
21	1	13	1
24	1	14	1
26	1	17	1
27	2	33	2
33	2	36	1
34	1	41	2
37	3	42	1
38	2	43	1
40	1	44	1
41	2	46	1
42	1	47	1
43	2	48	2
44	1	49	1
45	1	50	2
46	1	51	1
48	1	54	3
49	1	55	1
50	1	56	2
51	1	57	2
52	1	58	2
53	4	59	1
54	4	60	1
55	2	61	2
56	3	63	1
57	2	64	2
58	3	65	1
59	3	66	1
60	1	67	1
61	4	68	2
62	2	69	1
63	1	74	1
65	1		
66	3		
67	3		
68	3		
69	2		
70	1		
71	3		
73	1		
74	1		
76	3		
78	2		
81	2		
85	1		
89	1		

Table G5

Data on Kappitz Human Figure Drawing Test for Trainable Mentally Retarded Staff Deployment Project School #307

Pre-test		Post-test	
Value	No. of Cases	Value	No. of Cases
00	1	00	1
01	1	02	1
03	2	05	3
04	6	06	3
05	5	07	4
06	3	08	7
07	6	09	1
08	3	10	5
09	8	11	3
10	7	13	3
11	10	14	2
12	3	15	2
13	5	16	4
14	3	17	1
15	6	21	1
16	3	23	1
17	1	24	1
18	1	25	1
20	2		
25	1		
77	1		

Table G6

Pre-test Data on ITPLA for Trainable Mentally Retarded Staff Deployment Project School #308

Auditory Reception		Visual Reception		Auditory Memory		Visual Association		Manual Expression	
Value	No. of Cases	Value	No. of Cases	Value	No. of Cases	Value	No. of Cases	Value	No. of Cases
00	1	02	1	04	3	00	1	05	1
01	1	03	2	06	1	01	1	10	1
02	2	04	1	07	3	03	1	11	2
03	3	05	1	08	4	04	1	13	2
05	1	07	5	09	2	05	1	14	1
06	1	08	4	10	4	06	1	15	1
10	2	09	3	11	2	07	1	16	5
12	1	10	3	12	3	08	2	17	3
13	1	11	4	13	1	10	1	18	2
14	2	12	2	14	2	11	2	19	6
15	1	13	3	15	7	12	2	20	6
16	3	14	2	16	3	13	5	21	3
17	11	15	2	18	10	14	4	22	2
18	11	16	8	19	5	15	1	23	5
19	2	17	4	20	2	16	3	24	7
20	3	18	4	21	2	17	4	25	6
21	4	19	2	22	1	18	6	26	5
22	3	20	6	23	2	19	10	27	4
23	1	21	6	24	2	20	12	28	3
24	5	22	6	25	4	21	3	29	3
25	5	23	1	26	2	22	8	30	2
27	4	24	5	27	3	23	4	31	6
29	1	25	3	28	1	24	3	32	1
30	1	26	1	29	3	25	1	34	1
32	2	27	3	30	3	26	4	35	2
33	4	28	1	31	2	28	1	36	1
35	1	29	1	34	1	29	1	37	3
36	3			43	1	30	1		
37	1			52	1				
38	1								
39	1								
41	1								

Table G7

Post-test Data on ITPLA for Trainable Mentally Retarded Staff Deployment Project School #308

Auditory Reception		Visual Reception		Auditory Memory		Visual Association		Manual Expression	
Value	No. of Cases	Value	No. of Cases	Value	No. of Cases	Value	No. of Cases	Value	No. of Cases
00	1	00	2	00	1	00	3	06	1
02	2	02	1	02	1	01	3	10	1
03	2	04	4	04	2	02	1	11	1
05	1	05	1	06	2	05	1	12	1
06	2	06	2	07	1	06	1	13	3
07	2	07	3	08	1	07	1	14	3
09	2	08	5	09	1	08	1	15	5
10	2	09	2	10	2	09	1	16	5
11	2	10	2	11	2	10	2	17	7
12	1	11	4	12	4	11	1	18	4
13	1	12	6	13	1	12	1	19	8
14	2	13	3	14	1	13	3	20	3
15	1	15	1	15	2	15	4	21	4
16	2	16	1	16	3	16	1	22	3
17	5	17	1	17	2	17	4	23	2
18	1	18	1	18	4	18	2	26	2
19	2	19	2	19	2	19	6	27	1
20	3	20	1	21	1	20	4	29	2
21	2	21	1	22	3	21	5		
22	2	22	6	23	1	22	6		
23	2	23	2	24	2	23	3		
24	1	24	2	25	2	24	1		
25	1	25	1	26	3				
26	3	27	1	27	1				
27	1	29	1	28	1				
28	1			29	1				
29	1			30	1				
31	1			32	1				
33	1			33	1				
36	1			34	1				
37	1			36	1				
39	2			39	1				
40	1			43	1				
				44	2				

Table G8

Data on Peabody Picture Vocabulary Test for Trainable Mentally Retarded Staff Deployment Project School #308

Pre-test I.Q.		Post-test I.Q.	
Value	No. of Cases	Value	No. of Cases
10	2	10	3
12	1	15	1
14	1	20	1
16	1	28	1
22	1	30	1
26	1	32	2
27	1	36	1
29	1	37	1
33	1	41	3
34	1	42	1
38	1	43	1
39	1	45	3
40	2	46	2
43	1	47	1
44	2	48	2
45	3	50	2
46	2	52	2
47	4	54	1
48	2	55	1
49	2	56	3
50	2	57	4
51	2	58	4
52	1	59	1
53	2	61	2
54	5	63	1
55	8	64	2
56	1	65	2
58	2	68	1
59	1	69	1
60	4	72	1
61	1	73	1
62	2	74	2
63	3	83	1
64	4	88	1
65	2		
66	2		
68	4		
69	1		
70	1		
71	2		
74	1		
75	1		
76	2		
78	1		
79	2		
84	1		
88	1		
90	2		
93	1		

Table G9

Data on Kappitz Human Figure Drawing Test for Trainable Mentally Retarded Staff Deployment Project School #308

Pre-test		Post-test	
Value	No. of Cases	Value	No. of Cases
01	1	01	3
02	1	02	2
03	1	05	1
05	2	07	5
06	1	08	3
07	2	09	2
08	7	10	7
09	8	11	1
10	7	12	5
11	4	13	4
12	8	14	2
13	12	15	2
14	5	16	5
15	7	17	2
16	3	18	3
17	5	19	3
18	3	20	3
19	1	21	1
20	4	22	2
21	1	23	1
22	2	77	1
23	1		
24	3		
77	1		

Table G10

Statistical Matrix Showing Variables Correlated, Means, Standard Deviations, Number of Cases, and Zero-Order Correlation Coefficients, School #307 Trainable Mentally Retarded Staff Deployment Project

Variables Correlated	Means		Standard Deviations		No. of Cases	Correlation Coefficient
	V1	V2	D1	D2		
1 and 2	18.9	16.6	9.3	6.3	81	0.54
1 and 3	19.6	14.1	9.1	7.7	76	0.29
1 and 4	19.7	16.9	9.1	5.3	75	0.41
1 and 5	18.9	20.9	9.3	5.1	81	0.62
1 and 6	18.7	20.4	9.3	10.1	42	0.78
1 and 7	18.7	16.4	9.3	8.1	42	0.56
1 and 8	18.9	16.6	9.4	8.3	41	0.38
1 and 9	18.7	16.4	9.3	6.7	42	0.50
1 and 10	18.7	22.7	9.3	7.3	42	0.61
1 and 11	18.9	55.3	8.9	16.7	76	0.47
1 and 12	18.7	49.2	9.3	16.4	42	0.57
1 and 13	19.6	10.1	8.9	4.8	69	0.50
1 and 14	19.4	11.5	9.0	5.3	40	0.52
2 and 3	17.0	13.9	6.2	7.7	77	0.05
2 and 4	17.1	16.9	6.2	5.3	75	0.43
2 and 5	16.5	20.8	6.3	5.1	82	0.48
2 and 6	15.6	20.4	5.7	10.1	42	0.34
2 and 7	15.6	16.4	5.7	8.1	42	0.51
2 and 8	15.7	16.6	5.7	8.3	41	0.02
2 and 9	15.6	16.4	5.7	6.7	42	0.51
2 and 10	15.6	22.7	5.7	7.3	42	0.39
2 and 11	16.5	54.8	6.2	17.0	77	0.31
2 and 12	15.6	49.2	5.7	16.4	42	0.32
2 and 13	17.0	10.1	6.2	4.8	69	0.47
2 and 14	16.0	11.5	5.4	5.3	40	0.48
3 and 4	14.2	17.0	7.8	5.3	73	0.09
3 and 5	14.0	21.3	7.7	4.7	77	0.27
3 and 6	14.0	21.0	7.8	9.9	40	0.39
3 and 7	14.0	17.0	7.8	7.9	40	0.19
3 and 8	14.0	17.0	7.8	8.2	40	0.84
3 and 9	14.0	16.9	7.8	6.4	40	0.32
3 and 10	14.0	23.2	7.8	7.1	40	0.44
3 and 11	14.2	56.0	7.8	16.4	73	0.24
3 and 12	14.0	50.4	7.8	15.5	40	0.36
3 and 13	14.3	10.3	7.7	4.7	67	0.09
3 and 14	14.5	11.6	7.6	5.3	38	0.39
4 and 5	16.9	21.4	5.3	4.8	75	0.49
4 and 6	16.3	21.3	5.4	9.9	38	0.55
4 and 7	16.3	17.4	5.4	7.8	38	0.53

Note: See Table G1 for List of Variables.

Table G10 (continued)

Statistical Matrix Showing Variables Correlated, Means, Standard Deviations, Number of Cases, and Zero-Order Correlation Coefficients, School #307 Trainable Mentally Retarded Staff Deployment Project

Variables Correlated	Means		Standard Deviations		No. of Cases	Correlation Coefficient
	V1	V2	D1	D2		
4 and 8	16.4	17.3	5.4	8.3	37	0.06
4 and 9	16.3	17.7	5.4	5.5	38	0.62
4 and 10	16.3	23.2	5.4	7.3	38	0.47
4 and 11	16.8	57.4	5.4	14.5	71	0.32
4 and 12	16.3	51.8	5.4	13.1	38	0.54
4 and 13	17.2	10.5	5.3	4.7	64	0.20
4 and 14	17.0	11.9	5.0	5.3	36	0.20
5 and 6	20.7	20.4	4.5	10.1	42	0.59
5 and 7	20.7	16.4	4.5	8.1	42	0.57
5 and 8	21.0	16.6	4.3	8.3	41	0.32
5 and 9	20.7	16.4	4.5	6.7	42	0.63
5 and 10	20.7	22.7	4.5	7.3	42	0.63
5 and 11	20.6	54.8	4.7	17.0	77	0.42
5 and 12	20.7	49.2	4.5	16.4	42	0.45
5 and 13	21.4	10.1	4.2	4.8	69	0.42
5 and 14	21.1	11.5	4.2	5.3	40	0.44
6 and 7	20.4	16.7	10.2	8.0	45	0.58
6 and 8	20.5	16.9	10.3	8.1	44	0.29
6 and 9	20.4	16.2	10.2	6.5	45	0.54
6 and 10	20.4	22.9	10.2	7.4	45	0.64
6 and 11	20.0	55.7	10.1	17.4	43	0.45
6 and 12	20.4	49.7	10.2	16.1	45	0.57
6 and 13	20.5	10.0	10.2	4.6	40	0.52
6 and 14	21.1	11.2	9.9	5.3	43	0.48
7 and 8	17.0	16.9	8.0	8.1	44	0.16
7 and 9	16.7	16.2	8.0	6.5	45	0.69
7 and 10	16.7	22.9	8.0	7.4	45	0.59
7 and 11	16.3	55.7	8.0	17.4	43	0.55
7 and 12	16.7	49.7	8.0	16.1	45	0.63
7 and 13	17.0	10.0	7.9	4.6	40	0.29
7 and 14	17.1	11.2	8.0	5.3	43	0.39
8 and 9	16.9	16.4	8.1	6.5	44	0.27
8 and 10	16.9	23.2	8.1	7.2	44	0.45
8 and 11	17.0	55.8	8.2	17.6	42	0.22
8 and 12	16.9	49.9	8.1	16.2	44	0.36
8 and 13	17.1	10.0	8.4	4.6	40	0.24
8 and 14	17.2	11.3	8.1	5.3	42	0.39

Note: See Table G1 for List of Variables.

Table G10 (continued)

Statistical Matrix Showing Variables Correlated,
Means, Standard Deviations, Number of Cases, and
Zero-Order Correlation Coefficients, School #307
Trainable Mentally Retarded Staff Deployment Project

Variables Correlated	Means V1	Means V2	Standard Deviations D1	Standard Deviations D2	No. of Cases	Correlation Coefficient
9 and 10	16.2	22.9	6.5	7.4	45	0.61
9 and 11	15.9	55.7	6.3	17.4	43	0.62
9 and 12	16.2	49.7	6.5	16.1	45	0.67
9 and 13	16.3	9.9	6.2	4.6	40	0.34
9 and 14	16.7	11.2	6.3	5.3	43	0.43
10 and 11	22.8	55.7	7.0	17.4	43	0.46
10 and 12	22.9	49.7	7.4	16.1	45	0.68
10 and 13	23.5	9.9	6.8	4.6	40	0.36
10 and 14	23.3	11.2	7.2	5.3	43	0.56
11 and 12	55.7	49.2	17.4	16.0	43	0.70
11 and 13	56.1	10.1	17.0	4.6	76	0.22
11 and 14	56.4	11.0	17.5	5.2	41	0.09
12 and 13	49.8	9.9	16.3	4.6	40	0.16
12 and 14	50.0	11.0	16.4	5.5	44	0.35
13 and 14	10.1	11.1	4.4	5.2	39	0.67

Note: See Table G1 for List of Variables.

Table G11

Statistical Matrix Showing Variables Correlated, Means, Standard Deviations, Number of Cases, and Zero-Order Correlation Coefficients, School #308 Trainable Mentally Retarded Staff Deployment Project

Variables Correlated	Means V1	Means V2	Standard Deviations D1	Standard Deviations D2	No. of Cases	Correlation Coefficient
1 and 2	20.5	16.3	9.3	6.7	84	0.65
1 and 3	21.0	18.5	9.0	8.8	80	0.27
1 and 4	20.5	18.0	9.3	5.9	84	0.62
1 and 5	20.7	23.7	9.1	6.4	83	0.40
1 and 6	19.5	19.0	9.3	9.7	43	0.73
1 and 7	19.5	15.0	9.3	6.6	43	0.41
1 and 8	19.5	21.3	9.3	10.6	43	0.33
1 and 9	19.5	16.6	9.3	6.1	43	0.49
1 and 10	19.1	20.3	9.5	9.6	44	-0.10
1 and 11	20.4	55.8	9.3	17.1	82	0.58
1 and 12	19.8	53.5	9.4	15.1	44	0.63
1 and 13	21.0	13.2	9.0	5.0	78	0.38
1 and 14	19.8	13.6	9.4	5.4	44	0.43
2 and 3	16.8	18.5	6.5	8.8	80	0.45
2 and 4	16.3	17.9	6.7	5.9	84	0.61
2 and 5	16.5	23.7	6.6	6.4	83	0.61
2 and 6	14.7	18.9	6.7	9.7	43	0.63
2 and 7	14.7	15.0	6.7	6.6	43	0.58
2 and 8	14.7	21.3	6.7	10.6	43	0.50
2 and 9	14.7	16.6	6.7	6.1	43	0.55
2 and 10	14.5	20.3	6.8	9.6	44	0.08
2 and 11	16.3	55.8	6.7	17.1	82	0.48
2 and 12	14.8	53.5	6.7	15.1	44	0.33
2 and 13	16.8	13.2	6.4	5.0	78	0.34
2 and 14	14.8	13.6	6.7	5.4	44	0.40
3 and 4	18.5	18.2	8.8	5.7	80	0.33
3 and 5	18.5	23.9	8.8	6.3	80	0.32
3 and 6	18.9	19.3	8.7	9.4	41	0.45
3 and 7	18.9	14.9	8.7	6.3	41	0.40
3 and 8	18.9	21.5	8.7	10.4	41	0.84
3 and 9	18.9	16.9	8.7	5.6	41	0.46
3 and 10	18.6	20.5	8.8	9.7	42	0.02
3 and 11	18.6	57.0	8.9	16.2	78	0.23
3 and 12	19.0	53.8	8.7	14.2	42	0.20
3 and 13	19.4	13.6	8.6	4.8	74	0.31
3 and 14	19.0	13.7	8.7	5.2	42	0.51

Note: See Table G1 for List of Variables.

Table G11 (continued)

Statistical Matrix Showing Variables Correlated, Means, Standard Deviations, Number of Cases, and Zero-Order Correlation Coefficients, Schoo. #308 Trainable Mentally Retarded Staff Deployment Project

Variables Correlated	Means V1	Means V2	Standard Deviations D1	Standard Deviations D2	No. of Cases	Correlation Coefficient
4 and 5	17.9	23.5	5.9	6.7	84	0.50
4 and 6	17.1	18.9	6.1	9.7	43	0.61
4 and 7	16.7	14.7	6.5	6.9	44	0.55
4 and 8	16.7	20.9	6.5	10.8	44	0.35
4 and 9	16.7	16.3	6.5	6.5	44	0.70
4 and 10	16.6	20.2	6.5	9.5	45	0.06
4 and 11	17.9	55.8	5.9	17.1	82	0.57
4 and 12	16.8	52.6	6.5	16.3	45	0.67
4 and 13	18.5	13.2	5.3	5.0	78	0.41
4 and 14	16.8	13.5	6.5	5.4	45	0.51
5 and 6	22.0	19.4	6.4	9.3	42	0.59
5 and 7	21.6	14.9	6.8	6.9	43	0.41
5 and 8	21.6	21.3	6.8	10.6	43	0.35
5 and 9	21.6	16.6	6.8	6.1	43	0.44
5 and 10	21.5	20.4	6.8	10.0	44	0.17
5 and 11	23.7	56.4	6.4	16.5	81	0.38
5 and 12	21.6	53.3	6.8	15.7	44	0.33
5 and 13	23.9	13.4	6.4	4.9	77	0.42
5 and 14	21.6	13.8	6.8	5.2	44	0.35
6 and 7	18.2	13.5	10.1	7.2	55	0.54
6 and 8	18.2	19.7	10.1	10.4	55	0.56
6 and 9	18.1	15.3	10.2	6.9	54	0.58
6 and 10	18.2	18.1	10.1	4.4	55	0.53
6 and 11	18.9	52.8	9.9	18.8	52	0.74
6 and 12	18.2	51.2	10.1	16.5	55	0.63
6 and 13	19.6	13.3	9.7	5.2	49	0.39
6 and 14	18.2	12.7	10.1	5.7	55	0.53
7 and 8	13.2	19.5	7.3	10.5	56	0.58
7 and 9	13.3	15.0	7.4	7.2	55	0.74
7 and 10	13.2	18.1	7.3	4.4	56	0.51
7 and 11	14.0	52.8	6.9	18.8	52	0.48
7 and 12	13.2	50.4	7.3	17.2	56	0.57
7 and 13	14.5	13.3	6.8	5.2	49	0.32
7 and 14	13.2	12.6	7.3	5.7	56	0.56
8 and 9	19.5	15.0	10.6	7.2	55	0.60
8 and 10	19.5	18.1	10.5	4.4	56	0.50
8 and 11	20.3	52.8	10.4	18.8	52	0.45
8 and 12	19.5	50.4	10.5	17.2	56	0.47
8 and 13	21.2	13.3	9.9	5.2	49	0.43
8 and 14	19.5	12.6	10.5	5.7	56	0.53

Note: See Table G1 for List of Variables.

Table G11 (continued)

Statistical Matrix Showing Variables Correlated, Means, Standard Deviations, Number of Cases, and Zero-Order Correlation Coefficients, School #308 Trainable Mentally Retarded Staff Deployment Project

Variables Correlated	Means V1	Means V2	Standard Deviations D1	Standard Deviations D2	No. of Cases	Correlation Coefficient
9 and 10	15.0	18.1	7.2	4.4	55	0.52
9 and 11	16.1	52.9	6.3	18.9	51	0.49
9 and 12	15.0	50.7	7.2	17.3	55	0.67
9 and 13	16.6	13.5	5.9	5.1	48	0.59
9 and 14	15.0	12.7	7.2	5.7	55	0.73
10 and 11	19.5	52.5	9.1	18.7	53	0.09
10 and 12	18.1	50.4	4.4	17.2	56	0.48
10 and 13	19.8	13.3	9.2	5.1	50	0.04
10 and 14	18.1	12.6	4.4	5.7	56	0.50
11 and 12	52.9	52.3	18.6	15.7	53	0.83
11 and 13	55.8	13.0	16.0	4.9	88	0.31
11 and 14	52.9	13.1	18.6	5.3	53	0.42
12 and 13	53.9	13.2	14.7	5.2	50	0.25
12 and 14	50.6	12.5	17.1	5.7	57	0.51
13 and 14	13.2	13.6	5.2	4.9	50	0.76

Note: See Table G1 for List of Variables.

Table G12

Statistical Matrix Showing Variables Correlated, Means, Standard Deviations, Number of Cases, and Zero-Order Correlation Coefficients for Net Gains,[a] School #307 Trainable Mentally Retarded Staff Deployment Project

Variables Correlated	Means		Standard Deviations		No. of Cases	Correlation Coefficient
	V1	V2	D1	D2		
15 and 16	2.3	1.2	6.7	7.3	36	0.25
15 and 17	2.0	3.1	6.9	4.6	34	0.05
15 and 18	2.5	1.1	6.7	5.0	31	-0.17
15 and 19	1.9	1.7	6.5	5.4	35	0.19
15 and 20	1.8	-7.2	7.0	12.9	34	0.02
15 and 21	1.1	1.2	6.8	3.9	29	-0.12
16 and 17	1.0	3.4	7.5	4.6	36	-0.11
16 and 18	1.6	1.7	7.3	4.9	34	-0.03
16 and 19	1.0	2.1	7.3	5.8	37	0.19
16 and 20	0.5	-8.1	7.0	13.1	36	0.01
16 and 21	1.0	1.3	7.1	4.1	31	0.03
17 and 18	3.3	1.7	4.8	5.0	32	0.17
17 and 19	3.4	2.7	4.5	6.0	34	0.24
17 and 20	3.6	-6.3	4.6	13.9	34	-0.03
17 and 21	3.2	1.5	4.8	4.0	30	0.00
18 and 19	1.9	2.5	4.9	5.9	31	0.00
18 and 20	1.3	-7.3	4.6	13.7	32	-0.24
18 and 21	1.7	1.4	4.6	4.2	26	0.00
19 and 20	2.2	-7.4	5.7	13.4	34	0.27
19 and 21	3.0	1.6	5.8	4.1	29	0.47
20 and 21	-7.2	0.9	13.9	4.2	34	0.22

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[a] Net Gains refers to the score (positive or negative) obtained when the pre-test score is subtracted from the post-test score.

Note: See Table G1 for List of Variables.

Table G13

Statistical Matrix Showing Variables Correlated, Means, Standard Deviations, Number of Cases, and Zero-Order Correlation Coefficients for Net Gains,[a] School #308 Trainable Mentally Retarded Staff Deployment Project

Variables Correlated	Means V1	Means V2	Standard Deviations D1	Standard Deviations D2	No. of Cases	Correlation Coefficient
15 and 16	-0.9	0.6	7.3	6.3	37	0.14
15 and 17	-1.1	2.8	7.3	5.7	36	0.15
15 and 18	-0.2	-0.1	6.4	5.3	37	0.08
15 and 19	0.1	-2.7	7.2	5.2	36	-0.15
15 and 20	-0.6	-1.1	7.2	10.9	40	-0.13
15 and 21	-0.9	0.7	7.4	3.9	35	0.06
16 and 17	0.1	2.8	5.7	5.6	37	0.19
16 and 18	0.6	-0.5	6.3	5.4	38	0.27
16 and 19	0.4	-2.7	6.7	5.3	36	0.27
16 and 20	0.4	-0.6	6.3	10.9	40	0.18
16 and 21	0.4	0.6	6.8	4.0	34	0.20
17 and 18	2.6	-0.6	5.5	5.4	36	0.24
17 and 19	3.1	-3.2	5.7	5.3	36	0.14
17 and 20	2.8	-1.7	5.7	10.9	39	-0.13
17 and 21	3.4	0.4	5.5	3.8	35	-0.17
18 and 19	0.0	-3.2	5.2	5.0	36	0.31
18 and 20	-0.4	-0.9	5.3	11.3	40	0.38
18 and 21	-0.5	0.6	5.5	4.0	34	0.01
19 and 20	-2.9	-1.4	5.2	11.3	39	0.31
19 and 21	-3.2	0.4	5.5	4.0	34	0.46
20 and 21	-1.8	0.5	10.4	3.7	45	0.02

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[a] Net Gains refers to the score (positive or negative) obtained when the pre-test score is subtracted from the post-test score.

Note: See Table G1 for List of Variables.